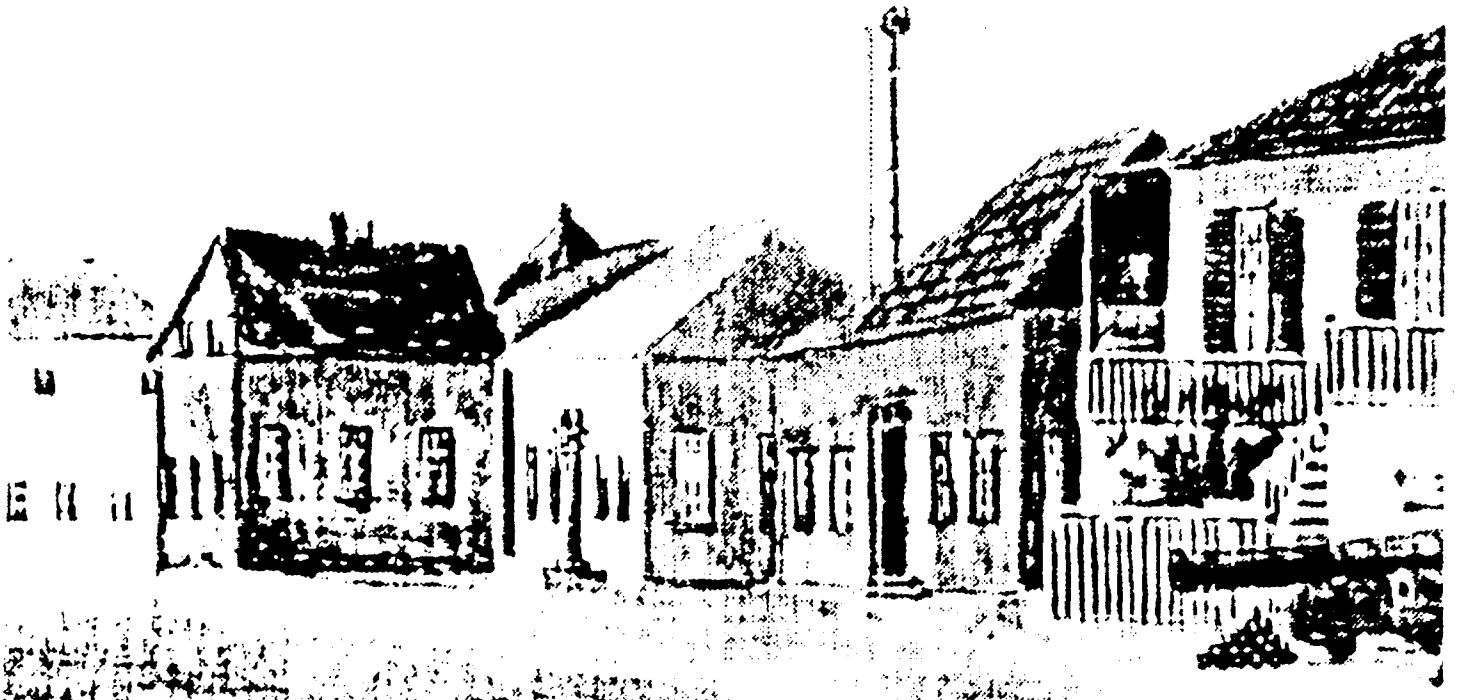
O.A.S. VOLUNTEER ARCHAEOLOGICAL EXCAVATIONS AT THE H.B.C. NEW OFFICE SITE, FORT VANCOUVER NATIONAL HISTORIC SITE - 1986 FIELD SEASON

December 1987

Submitted to: James Thomson
Regional Archaeologist
National Park Service
Pacific Northwest Region
83 South King Street,
Suite 212
Seattle, Washington 98104

Prepared by: Charles H. Hibbs, Jr.
Archaeologist
CHARLES HIBBS & ASSOCIATES, INC.
8532 N. Ivanhoe
Portland, Oregon 97203



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INTRODUCTION

The 1986 archaeological excavations at the Fort Vancouver New Office was the third year of research conducted under the Volunteer Archaeology Program at the fort. This program was developed in cooperation between the National Park Service (N.P.S.), Pacific Northwest Region, and the Oregon Archaeological Society (O.A.S.), Harvey Steele, Coordinator. The objectives of these investigations were twofold, (1) to conduct archaeological investigations, including excavations, field documentation, artifact analysis, and reporting of the H.B.C. Jail and New Office localities, under the direction of a professional archaeologist, and (2) to provide opportunities for the public to learn and participate in archaeological and historical research. Excavations commenced at the New Office on May 31, 1986, following completion of the Volunteer Excavations at the Jail Site, 1984-85 (Steele and Hibbs 1986). Altogether, excavations at the New Office are planned for the summers of 1986-1988, and will comprise approximately 100% data recovery of the New Office.

Charles Hibbs, Archaeologist, served as professional advisor to the project and Harvey Steele, O.A.S., was project coordinator. The New Office was situated in the north-central part of the fort between the "Old" Office and Jail (Figures 1 and 2). It was constructed in 1845 and probably demolished between 1860 and 1866. By the date of construction, the interior fort had been expanded approximately to its final dimensions now reconstructed by the National Park Service. The office was built directly over the original 1829 East Stockade, demolished in 1836 or 1837. As demonstrated in test excavations by Louis Caywood during the early 1950's, both the stockade and structural features associated with the New Office were intact (Caywood 1957). Hence, the site was expected to yield (a) significant information about the earliest H.B.C. artifacts in use at the fort and possibly evidence of earlier, undocumented structures, (b) specifics about early stockade construction, and (c) an exhaustive inventory of artifacts and features associated with the construction and use of the New Office, and representative of artifacts in use within the fort after ca. 1836/37.

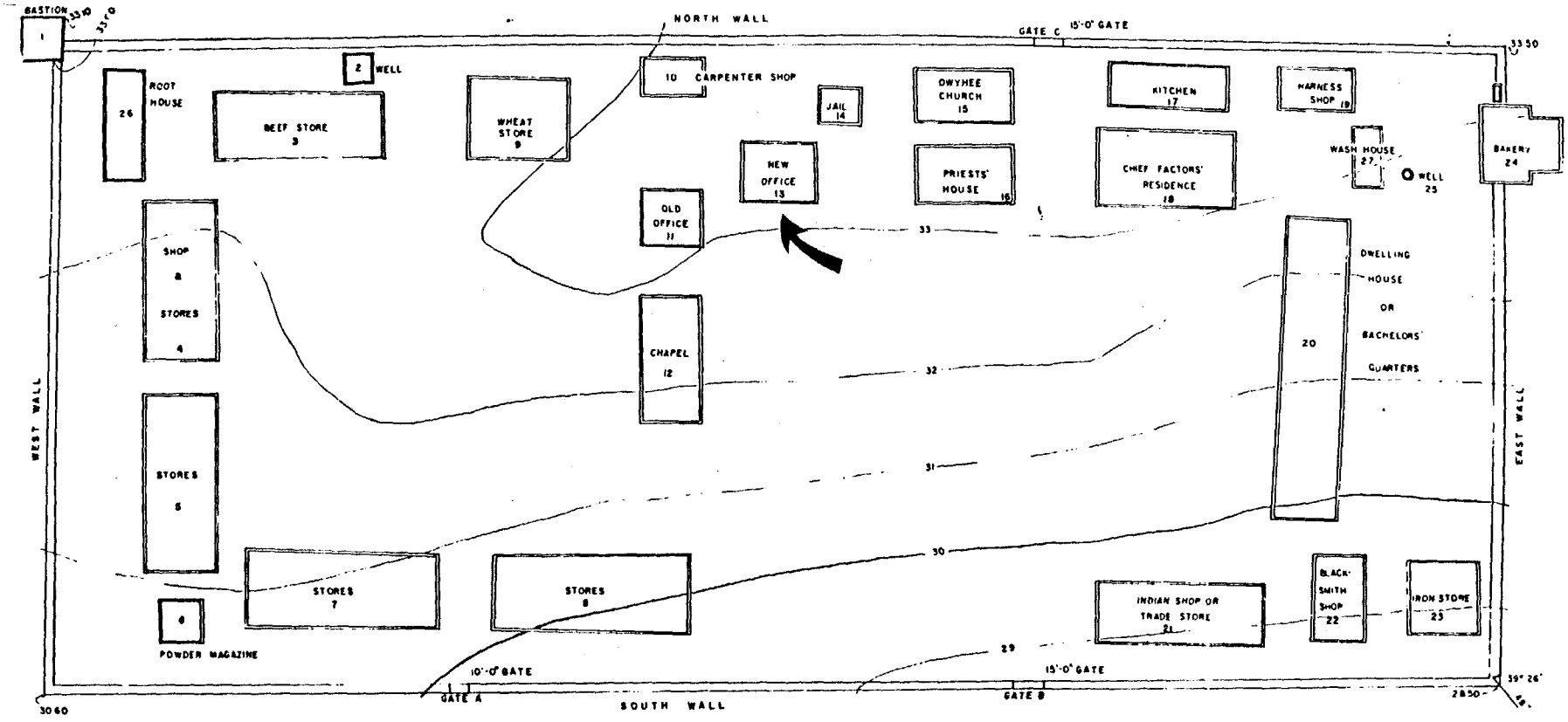


Figure 1 - Location of the New Office at Fort Vancouver, from Hussey 1972, Plate II.

Project Participants

The archaeological investigations of the New Office are conducted by the Oregon Archaeological Society (O.A.S.) under the auspices of the National Park Service Volunteer Archaeology Program. Under this program, members of the society provide expertise, skills, and labor in the excavation, analysis and reporting of archaeological remains from the New Office Site, under the direction of a professional archaeologist. In turn, instruction in field excavation strategies and techniques, artifact classification, and report preparation are provided by the archaeologist in charge. Additional volunteers and volunteer organizations are also encouraged to participate within the guidelines established for society members.

This project is also a principal requirement for participants in the O.A.S. Amateur Certification Program. The certification program, developed by O.A.S. and approved by the Oregon State Historic Preservation Office and Association of Oregon Archaeologists (A.O.A.) is a rigorous educational program designed to develop proficiencies in conceptual and technical skills in archaeology that will certify individuals to participate in, and contribute to, professional archaeological projects under a volunteer basis.

Harvey Steele served as Project Coordinator for the O.A.S; Charles Hibbs, Archaeologist, was the professional advisor to the project and directed the excavation and analysis of archaeological remains in addition to instructing field and analytic techniques to project participants.

O.A.S. members donated over 1,000 hours to the excavation and analysis of archaeological remains. Those who regularly contributed time, effort and expense through rain and heat include:

Don Buckingham
Cecelia Crater
Frank Fassold
Ray Frone
Jack Hauser
Steve Hollender
Rosemary Kenney
Doris Manley
Bonnie Mills
Bruce Peterson
Deb Severson
Don Severson
Dolores Speegle
Alison Stenger
Phyllis Wische

In addition to other O.A.S. members who provided periodic help, several other organizations provided significant aid in site excavation and analysis of artifacts: (1) the Archaeological Field School from Mount Hood Community College, John Woodward, Ph.D., Instructor, (2) students from the University of British Columbia Archaeological Field School, and (3) students from the Archaeology Class at Western Evangelical Seminary. Altogether, these students contributed in excess of 200 hours to the program.

Invaluable assistance was provided throughout by N.P.S. staff. In particular, Jim Thomson, Archaeologist, Pacific Northwest Region, both facilitated requests for field support services and regularly reviewed the progress of field work. The Fort Vancouver staff under James Thompson, Superintendent, gave invaluable assistance in providing site protection, field facilities, public interpretation, and museum cataloging. In particular, David Hansen, Curator, guided volunteers in the museum cataloging of artifacts and Glenn Baker directed the preparation of an interpretive sign board.

This report has been prepared by Charles Hibbs, Archaeologist, with assistance by O.A.S. members under contract with the National Park Service.

Scope and Methods

The 1986 Volunteer Archaeological Excavations at the New Office comprised the excavation and analysis of archaeological remains from approximately 1/3 of the New Office Site. Excavations were conducted on each Saturday and Wednesday from the inception date, May 31, 1986, to the conclusion of field work, October 6, 1986. At the conclusion of field work, visquene was placed against all profiles and the site was backfilled. Artifact classification and museum cataloging commenced following the field work and were completed in March, 1987.

Field investigations were limited to the former location of the north wall of the New Office and east and west from the 1829 East Stockade. Altogether, 15 contiguous grid units, each 5 feet by 5 feet in size, were hand excavated from present ground surface to the base of cultural deposits, and all sediments were screened through 3/8" mesh screens. All features and significant stratigraphic profiles were drawn and photographed according to accepted professional practices.

Horizontal and vertical control was derived from the N.P.S. fort-wide datum using transit and tape, and located at coordinates North 40 West 270. American Engineers System (tenths of a foot) was used to control horizontal and vertical provenience, according to previous N.P.S. archaeological practices. Artifacts were collected by Stratigraphic Levels for post-H.B.C. strata: the 1894 flood silt (Stratum 3) and subsequent 20th century strata (Stratums 1 and 2). The pre-1894 stratum, Stratum 4, the parent floodplain surface, was excavated and collected by arbitrary levels, each 0.2 foot in thickness, until the artifact- and feature-bearing portion of the stratum was exhausted. All field notes, maps, and profiles were maintained on standard forms developed for the project.

All artifacts were field catalogued and classified according to National Park Service and site-specific criteria established from past investigations at the Fort, particularly the classification system reported by Ross (1976). In addition to the research classifications, diagnostic artifacts were catalogued to the Fort Vancouver Museum Accession Collection according to guidelines in the N.P.S. Museum Handbook. The 1986 data recovery was assigned N.P.S. Museum Accession Number 2384, and all field forms and artifact catalogues were accordingly designated.

Because the present findings represent a limited sample of the New Office area, many of the findings are at this stage conjectural. This is particularly true of hypothesis developed from artifact distributions where the present small size of the test area relative to the size of sampling units (e.g.: 15 units confined to a single side of the New Office) precluded identification of significant trends in artifact deposition. Of greater impact to field interpretations was the high proportion of the area previously removed by Lewis Caywood's excavations in 1949 - 1953. The combined effects of those test excavations at the locations of building footings, along the 1829 East Stockade, and in several randomly placed test trenches, resulted in removal of approximately 49% of the site. Hence, areas that would normally have been expected to yield a high frequency of artifacts, along the building perimeter and in the demolition fill of the 1829 stockade were previously removed. Unfortunately, Caywood was remiss in documenting the locations of most artifacts that were recovered. In a comprehensive search of the Museum Collection and Accession Records by Hibbs, the only artifacts from the area that were specifically provenienced and catalogued by Caywood were from the 1829 East Stockade privies (called "trash pits") located north and south of the project area.

Finally, the interpretive context of the New Office data is constrained by the proximity of the excavations to other historic building locations, notably the Jail, the "Old" Office, the Priest's House, and the Carpenter Shop during the 1840's, and possibly to other buildings extant in the area prior to the expansion of the East Stockade in 1836-37. Because of this proximity and the limited excavated area, specific associations of artifacts or artifact clusters with construction and use of the New Office versus other nearby structures are at best tenuous. Expanded excavations in 1987 and 1988 should clarify these spatial relationships.

Despite these shortcomings, the investigations clarified several relationships preparatory to expanded excavations in subsequent years:

A) The north wall footing and corner locations were defined for the New Office. This will allow highly predictive excavations to be conducted in the future.

B) Based on the distribution of artifacts found west versus east of the 1829 East Stockade, some discriminations were possible in the identification of artifacts used by the H.B.C. prior to fort expansion in 1836-37 versus after that date. Specifically, ceramic roofing tile and Chinese polychrome export porcelain evidently were used in the pre-expansion period. Additional comparative excavations located west versus east of the 1829 stockade should augment the artifacts used predominately, or only, in the pre-expansion period.

C) As Caywood observed, all footings found in the New Office were burned on the upper surface. However, other evidence suggestive that the building was demolished by a burning, such as ash lenses, and melted and burned artifacts was scant. Hence, other events may explain the charred footings than that of the building having been burned, as advanced by Caywood.

D) Caywood's excavations, conducted between 1948 and 1953, were found to be more extensive than originally shown on his field maps, or on the 1975 N.P.S. Composite Archaeological Map of the fort. In particular, two north-south exploratory trenches, apparently preliminary tests to find stockade and building relationships, were found in the New Office. These additional test trenches, reduced the expected recovery of in-situ data.

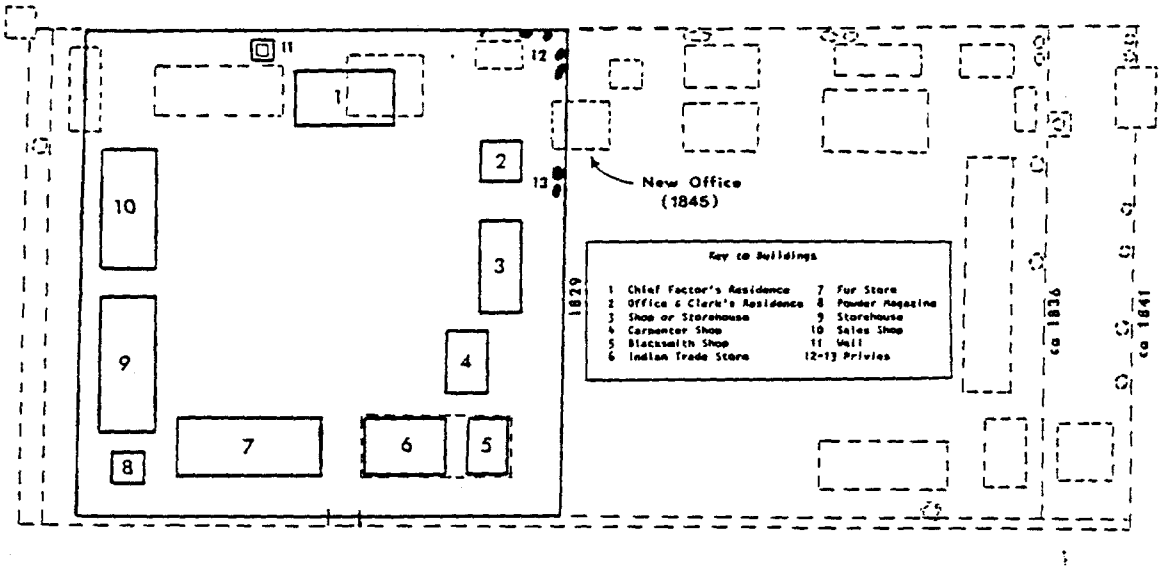
SITE HISTORY

As previously indicated, the site of the New Office contained at least two different structures during the life of the fort, e.g., the 1829 East Stockade and the 1845 New Office and activities and deposits associated with other nearby structures undoubtedly contributed to the archaeological assemblage.

1829 Stockade

Little is known historically about the size, appearance and method of construction of the first fort stockade. Constructed in 1829, the East Stockade was subsequently demolished in 1836 or 1837 for eastward expansion of the fort (Figure 2a). The construction technique for the stockade system in 1829 appears to have been comparable to that used in subsequent expansions (Hoffman 1974: 131-135): essentially (1) placement of support of "king" posts at intervals in a narrow trench, (2) installation of upper and lower stringers or "walers" between these posts, followed by (3) installation of vertical pickets to fill the gaps between the king posts. In 1841, diagonal props were apparently used to help support the stockade from lateral collapse, a condition that may have also existed with the early stockade.

Archaeological excavations in the south 1/4 of the early East Stockade were conducted by N.P.S. from 1972-1973, reported in Hoffman (1974: 38-39, Figs. 51-52, Table 5). In that investigation, the 1829 East Stockade was called the "Inner East Stockade", designated Feature 32Ø (Ibid: 38), and shown as stockade alignment E-K on the fort-wide stockade map (Ibid: Fig. 4). King posts were found to be set in a trench at intervals of approximately 13 feet, called by the archaeologist a "FOVA", with intervening pickets set at a shallower depth than the king posts. The "FOVA", and 1/2 "FOVA" (i.e., 6.5 feet), was found to be a regular unit of measure used by the H.B.C. in laying out the stockade system as well in spacing the building footings. The interval was hypothesized to have been based on the French "arpent", approximately 191 feet, which consisted of 180 pieds. One "FOVA" is equivalent to approximately 12 pieds (Ibid: 136). The specific characteristics of the 1829 East Stockade documented in the N.P.S. sample are shown below (from Ibid: Figs. 51-52, Table 5).



Hypothetical Plan of Fort Vancouver, pre-1836

Figure 2a - Location of the New Office relative to the early fort plan, 1829 - ca 1836.

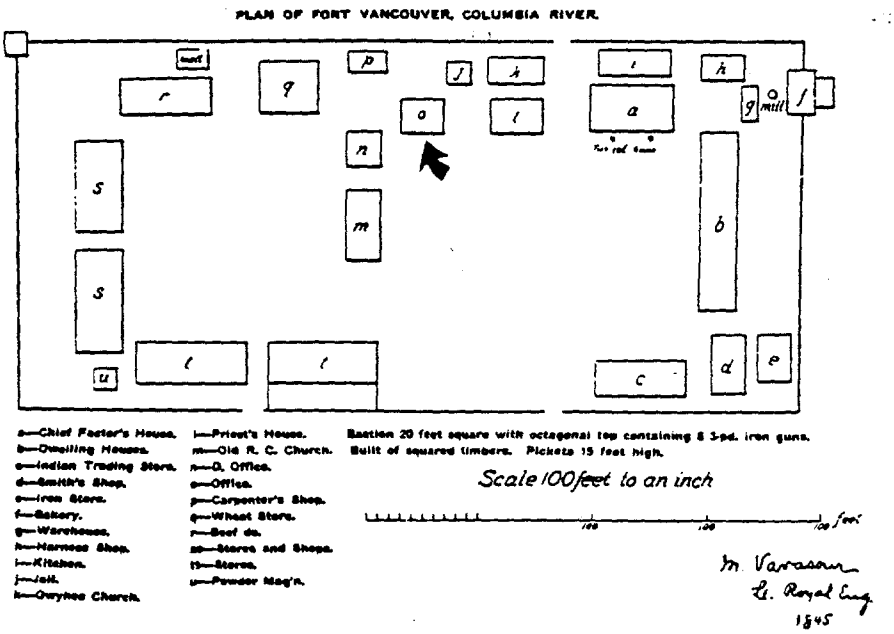


Figure 2b - 1845 plan of Fort Vancouver, redrawn from M. Vavasour, showing the location of the New Office (Building "O"), from Hussey 1972, Plate VIII.

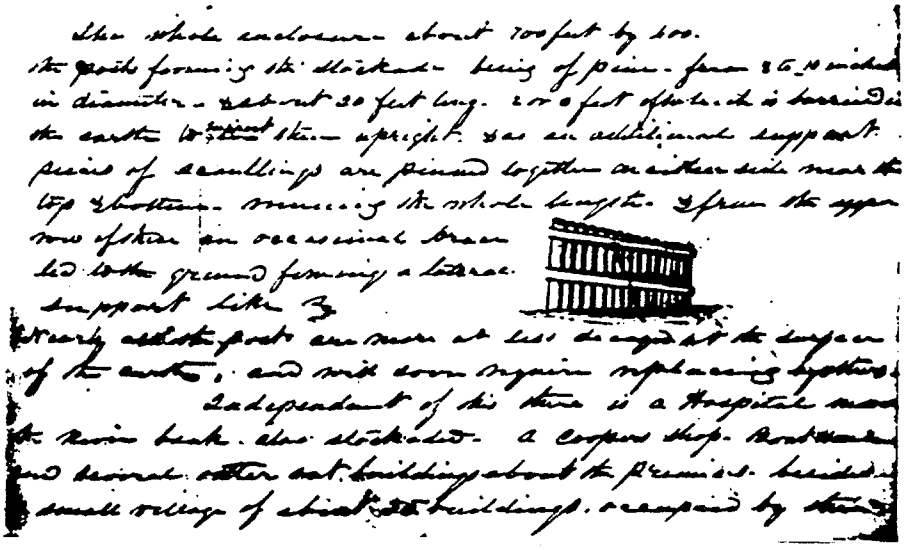


Figure 3a - Sketch of 1841 stockade by Henry Eld, showing lateral braces, on file NPS, Fort Vancouver.

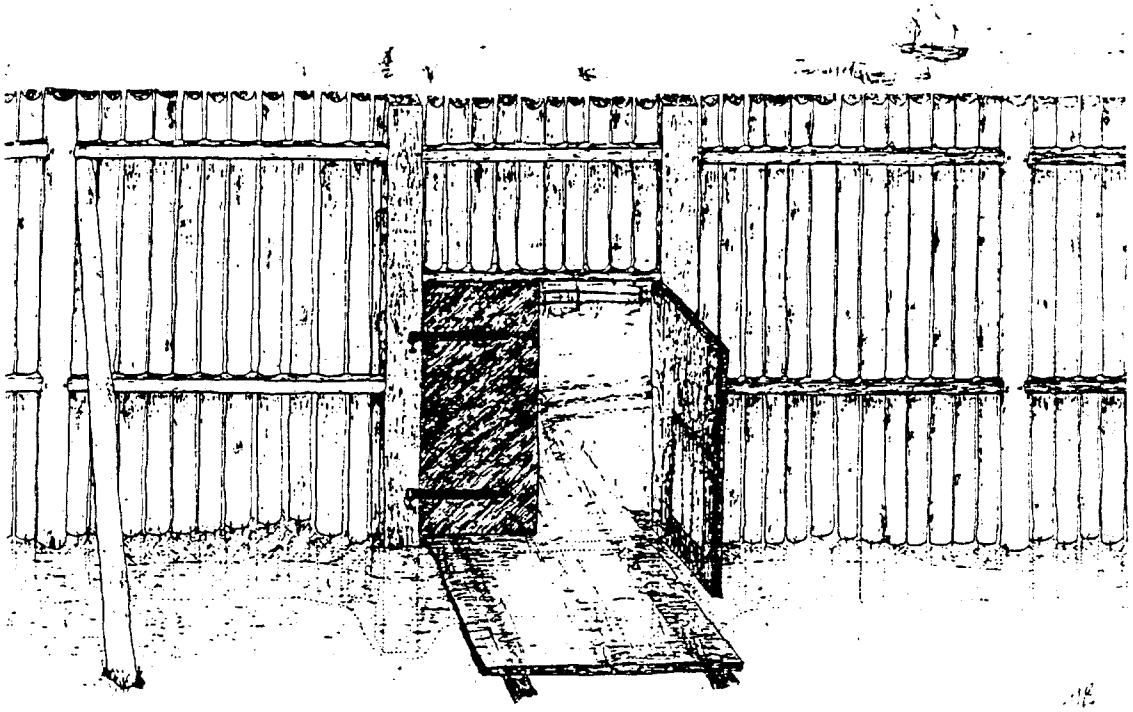


Figure 3b - Historical archaeological reconstruction of the stockade by Hugh Buntin, from Hoffman and Ross 1974: Fig. 55.

Trench:	Width	Approximately 1.7 - 2.0 feet.
	Depth	Approximately 2.8 - 3.4 depth below N.P.S. surface. Locally at king posts to approximately 4 feet below N.P.S. surface.
King Posts (n=2):	Diameter	0.95 feet.
Pickets (n=14):	Diameter	0.20 - 0.80, mean diameter 0.42±0.21 feet.

New Office

From 1829 until 1846, the "office" at the Hudson Bay Company's Fort Vancouver served as the clerical center for the Columbia Department, a region extending from Russian Alaska to Spanish California, and from the Pacific Ocean to the Great Divide. Here, the various journals, letters, inventories, invoices, and account ledgers were maintained by the company clerks.

The New Office was the second such facility at the fort. An earlier Old Office was part of the initial fort construction in 1829. That structure contained office as well as residential space for at least one clerk until at least 1845 (Hussey 1976: 231-32, 247). As Hussey has pointed out, the Old Office would have probably been torn down at this time were it not for the arrival of the H.M.S. Modeste on November 29, 1845. Shortly after arrival, Commander Thomas Baillie, captain of the Modeste, and perhaps other officers of the ship were given the "New Office" as a residence. The building continued to be occupied in this capacity until the departure of the ship 18 months later, in May, 1847. During this period, the Old Office apparently continued to serve as the clerical center of the fort. With the departure of the Modeste in 1847, clerical functions were probably immediately transferred to the New Office and the Old Office was demolished.

Although several clerks were employed at the fort from 1845 - 1860, Thomas Lowe is the only person known to have specifically been employed at the New Office, and possibly resided there as well. He began work at the "Old Office" in 1843 and retired from the Company in 1850. In the interim, he married Rose Birnie, the daughter of former Clerk James Birnie, and maintained a diary of his employment of the fort (Hussey 1976: 249). Lowe's diary, previously cited, is the most important historical document bearing on the every-day affairs at the New Office, and for that matter, of the entire fort during his period of employment.

Figure 4a - Watercolor by Lieutenant T.P. Coode, 1846-1847, showing the New Office, in Hussey 1972, Plate XII.

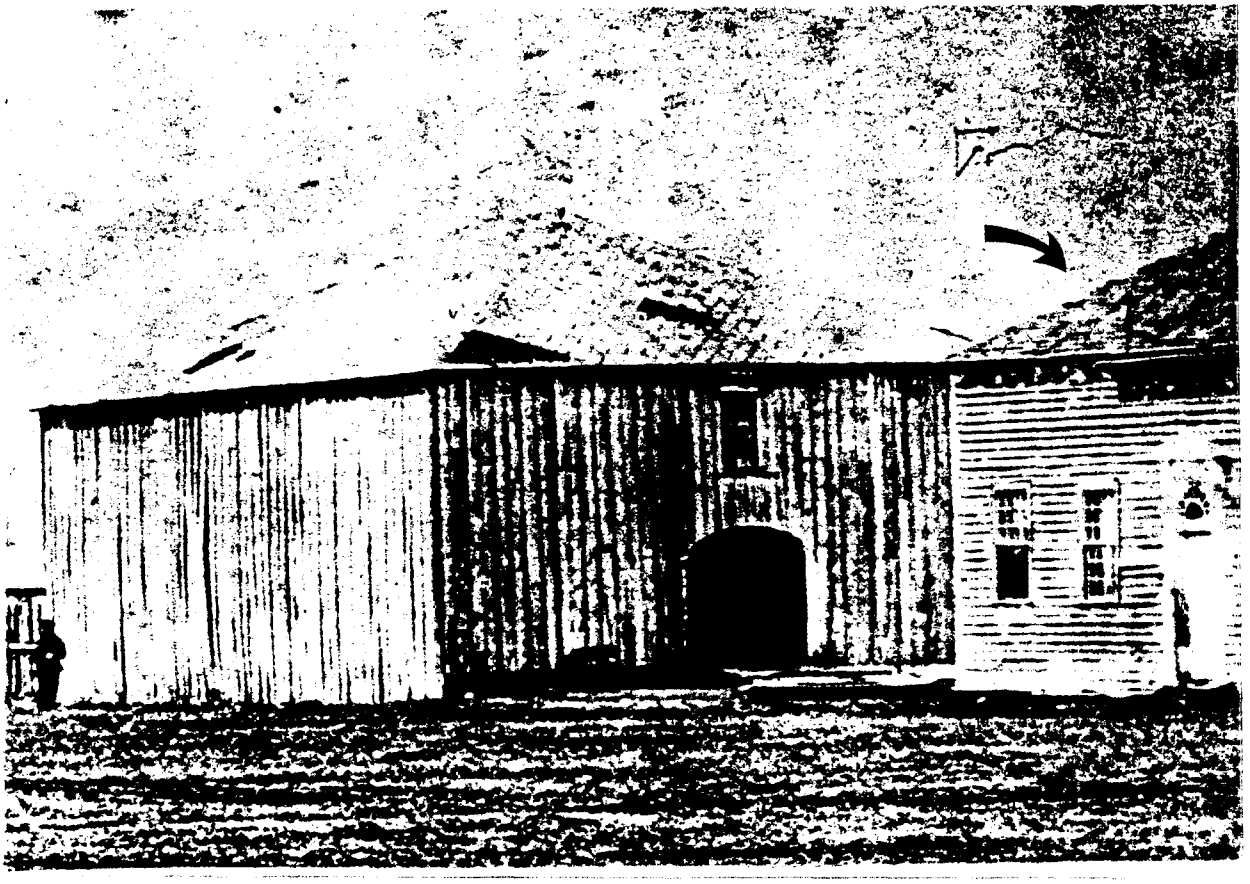


Figure 4b - Enlargement of 1860 photograph by the British Boundary Commission, showing the New Office (right), in Hussey 1976, Plate LXIII.

When Fort Vancouver became the property of the United States in 1860, the New Office was pronounced in "tolerable repair" by a board of army officers who apparently thought that it could be used for temporary military purposes (Hussey 1976: 273). The specific date that the structure was demolished is unknown, although Hussey has speculated that by 1865 or 1866 all structures at the fort had disappeared. Archaeological evidence of in-situ burned footings indicate that the structure was either burned down (Caywood 1955: 14) or that a refuse pile was burned following dismantlement of the building.

The location of the New Office is shown on several historical maps dating from 1845 onward, beginning with the Plan of Fort Vancouver, drawn by M. Vavasour (Figure 2b). The site was archaeologically verified and documented by Caywood during the 1948-52 N.P.S. excavations (Figure 5); subsequently the locations of footings discovered by Caywood were plotted on a fort-wide archaeological map prepared by N.P.S. staff in 1975. Caywood found the building to have been 31 feet (north-south) by 37.5 feet (east-west) as measured center-to-center from the building corners, a size that closely coincides with the exterior dimensions of 32 by 38 feet described by (then) Clerk Thomas Lowe in August of 1845 (Lowe 1843-1850: 21-22).

Caywood also verified the location of the 1829-ca. 1836 east wall of the stockade, located in the west 1/2 of the New Office building site, together with an alignment of privies (Caywood's Trash Pite numbers 3, 7, 8, and 9) located north and south of the New Office location.

The original appearance of the New Office is relatively well-documented in two illustrations of the period: the 1846/47 watercolor by Lieutenant T.P. Coode of the H.M.S. Modeste (Figure 4a), and an 1860 photograph by the British Boundary Commission (Figure 4b). These illustrations have been published by Hussey, 1972: Plate XI, and 1976: Plate LXIII, respectively.

Construction Detail and Furnishings:

Hussey (1976) has discussed the various construction details of the New Office and included an inventory of furnishings ("articles in use") in 1848. As this record may have great significance in the interpretation of the archaeological record, several salient aspects are presented below.

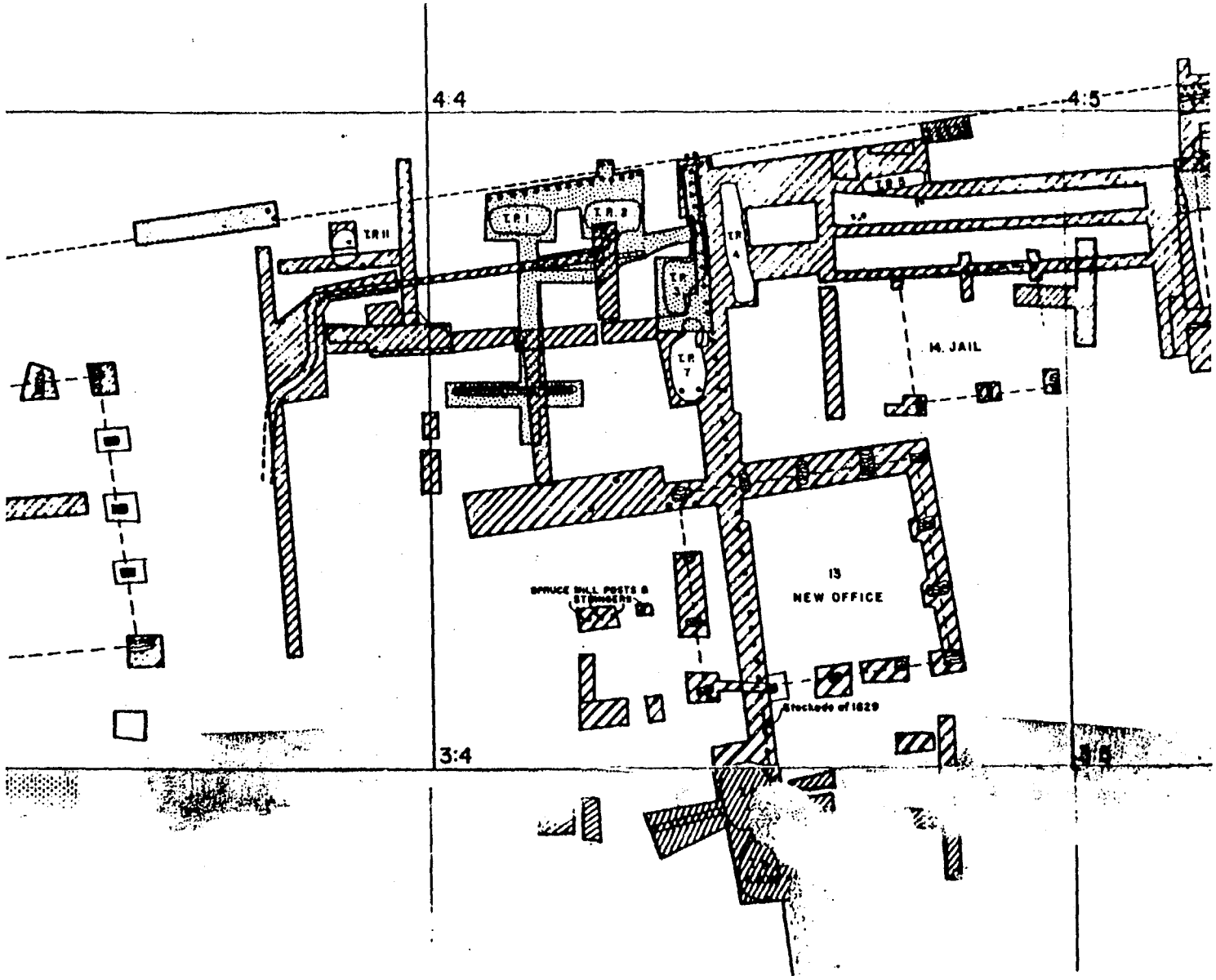


Figure 5 - Plan of Louis Caywood's excavations in the New Office area, in Caywood 1955.

Exterior construction details are illustrated in the 1846 Coode watercolor and 1860 Boundary Commission Photograph previously cited (Figures 4a and 4b). In 1846, the building was of French-Canadian Hipped Roof Style, painted white (or in a light color) with entry door, stoop (small steps) and possibly transom centered on the south wall. Four windows were located in the south wall, two each at equal intervals on each side of the entry door; three windows are suggested on the east wall. A chimney is not shown.

Greater detail is evident in the 1860 photograph of the west half of the south wall. By that date (not necessarily as originally built), the roof was shingled and siding ("sheathing") was attached. Windows were double-hung 12 pane (3 x 4 panes) without shutters. The transom over the entry door suggested in the 1846 watercolor is clearly shown as a semi-circular pane of glass with a surrounding arc of 8 to 10 small glass panes. Again, no chimney is shown in the photograph.

Archaeologically, evidence of shingling and sheathing has been found in very high quantities of function-specific nails. Shingling nails have been found in wrought rose (Fort Variety 1002, at the Sales Shop) and machine cut (Fort Variety 2004 at the Chief Factor's Residence and Fur Store) types (see discussion in ARTIFACTS: Nails). Sheathing nails, specifically a bevelled-tip variety of wrought rose "clench" nail (Variety 1060) was previously documented for the Sales Shop (Hoffman and Ross 1973, 1974a, 1974b; Steele et.al. 1975).

The range of furnishings in use (in 1848) includes the following (reprinted from Hussey 1976: 259):

1 Barometer	4 Ivory Folders
1 Cast Iron Cash Box	1 Hone
1 Tin Deed Box	10 Glass Cone Inkstands
2 Tin Letter Boxes	6 Pen Knives
2 Ivory Pounce Boxes	9 Ebony Rulers
10 Tin Candlesticks	1 H.B.C. Seal
1 Book Case	6 Pairs Jappaned Snuffers
2 Wooden Chairs	3 Stools
1 8-Day Clock	4 Tables
3 Baize Tablecloths	1 Pair Fire Tongs
3 Desks	1 Case Brass Scales and Weights 1 Oz. to 1/2 Grain

Many of these articles were obviously not durable and are not expected to have survived in archaeological context. However, evidence of the durable goods such as fragments of ivory, glass inkwells, seals, scales and weights, etc., may be recovered. One item, the fire tongs, has been emphasized by Hussey as indicative of a stove or fireplace. As a stove is not listed in the articles-in-use, as normally was done, the entry suggests the presence of a fireplace (despite the lack of historical evidence of a chimney).

Historical Problems:

Hussey (1976: 280) outlined several historical problems relating to the New Office and recommended several objectives for future archaeological research critical for N.P.S. restoration.

1. He recommended that the entire New Office site be excavated.

2. The base of a chimney, if any, should be located.

3. More information regarding the building footings should be generated, particularly the depth of the footings relative to the 1845 ground surface.

4. Because the building was occupied as a residence rather than as an office in the N.P.S. restoration period (1845-46), an understanding of domestic use articles and furnishings used by the officers of the Modeste may be critical to restoration.

Other areas should also be explored, including the presence and location of windows and doors on the west, north and north 1/2 of the east walls. Previous archaeology has employed artifact distribution trend data that may indicate window fragmentation localities and outdoor refuse disposal. Other exterior activities, like smoking areas, evidenced by high frequencies of ceramic smoking pipe fragments, should also be identified.

STRATIGRAPHY

The gross sequence of cultural and natural deposition was uniform throughout the area excavated. Present day land surface is approximately 1.5 feet above the original terrace and H.B.C. cultural deposits (Figure 6). The intervening sequence of gross strata is identical to other sites previously excavated in the north 1/2 of the fort (cf. the jail site, Steele and Hibbs 1986) and include, in order of deposition after the H.B.C. occupation, (a) flood silt deposited by the 1894 flood, (b) course sand and water washed gravels, introduced as ballast by the U.S. Army in the construction of the spruce mill, ca. 1916 and (c) sediments and redeposited gravels that comprise the modern surface, deposited after World War I. Specific characteristics of these deposits and the H.B.C. strata follow, and a representative profile is shown in Figure 4.

Modern N.P.S. Surface

This stratum was designated Stratum 1 and extends from present surface to approximately Ø.7 - Ø.8 feet below surface. Sediments comprise dark brown silts with water worn pebbles and course sand, and include a mixture of H.B.C. and U.S. Army artifacts redeposited from deeper strata. The stratum includes deep intrusions, principally backfilled archaeological test pits and trenches conducted by Louis Caywood during the early 195Ø's (Figure 7a). We presume that most, if not all, H.B.C.-period artifacts found in this stratum were redeposited by Caywood, as he did not collect all artifacts excavated. Locally, the surface of this stratum was capped by an asphalt pad, installed as an interpretive feature by the N.P.S. during the late 196Ø's to show the location of the New Office. This pad did not extend into, or adversely affect the H.B.C. deposits, unlike other areas in the south 1/2 of the fort, where this asphalt was laid directly on and within in-situ deposits (cf. the Fur Store, Hoffman & Ross 1974).

U.S. Army World War I Gravel

This stratum, designated Stratum 2, is locally comprised of very compact grayish-brown water washed sand and gravel to cobble size with lenses of course sand and yellowish-brown gravels, and directly underlies the N.P.S. stratum. Extending from approximately Ø.8 - 1.5 feet below surface, and averaging 6 - 8 inches in thickness, the deposit was apparently imported as ballast fill for railway spurs that accessed the U.S. Army spruce mill that

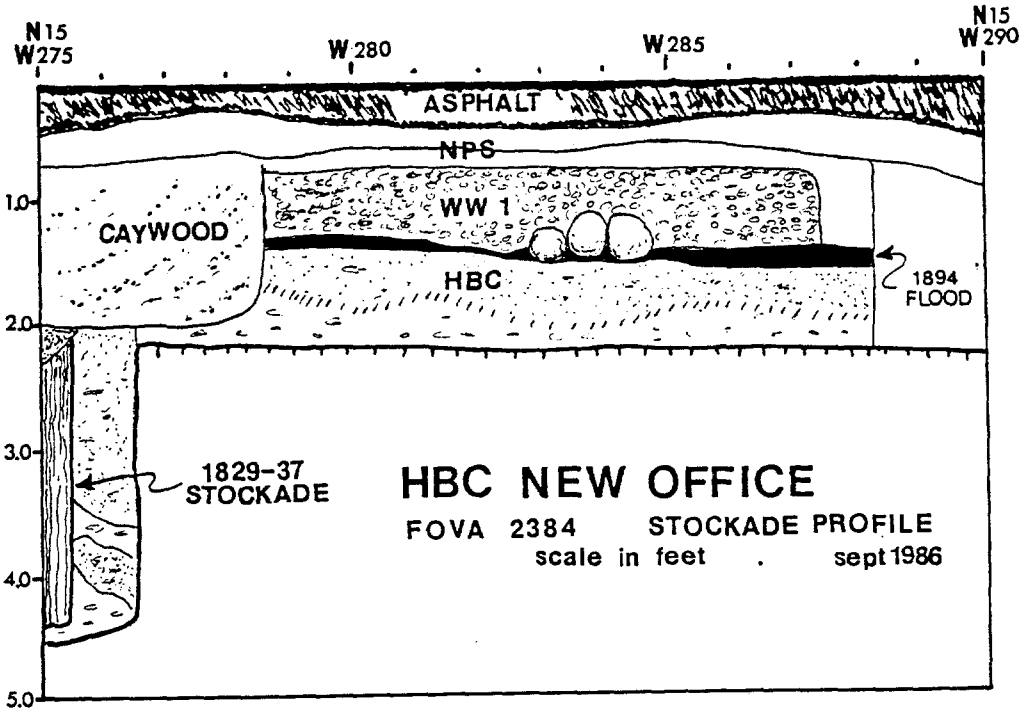


Figure 6 - Stratigraphic profile of the cultural deposits found in the New Office.

was located in the northern 1/2 of the fort area from 1916 - 1918. The mill was torn down shortly after World War I. Several structural features, including post holes, waterlines and trash pits,
have been reported as associated with this time period (cf. Feature 21, post-and-board system, located in the Jail Site, Steele and Hibbs 1986). No structural features associated with the spruce mill were found in the 1986 New Office excavations. Typically, artifacts from this stratum are 20th century manufactures, and include wire spikes and nails, thick window glass, wire, and coal. While the artifacts and features associated with this stratum are not presently considered significant, the depth and character of the deposit have demonstrably preserved the underlying H.B.C. stratum. Given that the (at the time) world's largest spruce mill was built directly over the Fort Vancouver site, and that the National Park Service subsequently has engaged in a variety of potentially resource disturbing activities, it is remarkable that the integrity of the H.B.C. deposits have been maintained, including preservation of wood structural remains. The scenario demonstrates, at least locally, the preservation capabilities of sterile landfill having compatible aggregate and compaction, that may have application as a future mitigative remedy at other sites.

1894 Flood Silt

Directly underlying the World War I gravel is a thin stratum of gravel-free dark brown silt attributed to deposition by the 1894 flood. The stratum is found at approximately 1.4 - 1.5 feet below present surface and averages 3/4 - 1 inch in thickness. The stratum is a significant stratigraphic marker for interpreting the integrity of the underlying H.B.C. stratum, and the presence of deep intrusive post holes, trenches, and other constructs and disturbances associated with 20th century activities at the site. The deposit was first dated at the Sale Shop (Steele et. al. 1975: 30). At the Jail (Steele and Hibbs 1986) and at the New Office, American coins found on the stratum surface, dating exclusively between 1894 and 1916 (Note: This date has been verified in the 1987 with the recovery of excavations, as a .45 Government Springfield rifle cartridge, externally primed center-fire, issued 1882-1894, was recovered from the surface of the H.B.C. stratum).

Cultural deposition associated with the stratum surface was limited to two features: (a) Feature 10, a large ring of cobbles of unknown function, and (b) Feature 15, an area in which the stratum was truncated, or mixed with lower, H.B.C., deposits, and compacted, suggestive of a road (Figure 7b, Figure 8). These features are discussed and illustrated in the following section.

H.B.C. Stratum

This stratum, designated Stratum 4, generically comprises the 19th century terrace sediments and cultural deposits. Surface of the stratum is approximately 1.5 feet below the present surface. Sediments comprise dark brown silty loams with older water washed gravels, at stratum surface, grading from yellowish brown parent water-washed gravels at elevations greater than 3 feet below the stratum surface. With the exception of deeper intrusive features such as stockade trenches, footing pits, cellars, privies, etc., historic artifacts associated with the H.B.C. and 19th century U.S. Army, as well as all Aboriginal artifacts are contained within the upper Ø.6 - Ø.8 feet of the stratum. The upper artifact bearing zone appears somewhat darker brown than deeper sediments from organic enrichment. Presumably the stratum is developed from a late pleistocene gravel bar, probably associated with the Bretz (Missoula) Flood, ca. pre-12,ØØØ to 18,ØØØ years ago, complimented with sediment saturation from subsequent flooding and sheet wash. Notably, no coherent flood stratums are definable until deposition of the 1894 flood (Stratum 3) previously discussed.

Approximately 4Ø% of the area excavated during 1986 contained the undisturbed H.B.C. stratum capped by the 1894 flood. Of the disturbed areas, 49% of the H.B.C. stratum was removed or truncated by Caywood's archaeological excavations, and on additional 1Ø - 11% was mixed or altered by post-1894 disturbances evident at Features 1Ø and 15, previously mentioned (Figure 9).

FEATURES

Features included architectural remains and constructs, such as post holes and ditches, and refuse deposits. Fifteen features were discovered, including seven that were associated with the H.B.C. occupation period (Table 1). Significant features defined for the National Park Service, U.S. Army, and Hudson's Bay Company periods are discussed below.

N.P.S. Period Features (Stratum 1)

Three N.P.S. features were documented (Table 1). A shallow trench, designated Feature 1, was found underlying a concrete curb that enclosed the N.P.S. asphalt pad, installed in the late 1960's. Locally this trench did not intrude to the H.B.C. stratum. By far the most significant feature is the backfilled test trenches and pits from Lewis Caywood's archaeological excavations, 1949 - 1953 (Figure 7a). These excavations for the most part extended to sterile sediments in Stratum 4, and altogether disturbed approximately 49% of the site. Mixed H.B.C., and more recent artifacts were frequent, indicative that Caywood was highly selective in his artifact recovery. Approximately 46% of all artifacts were from post-H.B.C. strata and by far most of these were from Caywood's backdirt (see "Artifacts" for discussion). Discrepencies were also found in Caywood's original field map (Figure 5). While he illustrated continuous trench excavations along the north wall, a condition that we confirmed in 1986, the trench was not excavated to uniform depth. West of the 1829 stockade this trench extended to about 4 feet depth and removed all cultural deposits, including the northwest corner footing of the New Office. East of the stockade , excavated the trench to the surface of the 1894 flood silt (Stratum 3), but went deeper only at the locations of the New Office footings. Hence, undisturbed H.B.C. strata were encountered between footings in this area (see Figure 9 for Caywood's excavations that intruded into the H.B.C. deposits). At the 1829 stockade and New Office footings east of the stockade, Caywood excavated to the (approximate) upper surface of wood remains, and then backfilled. This enabled us to re-examine most of the significant H.B.C. structural features.

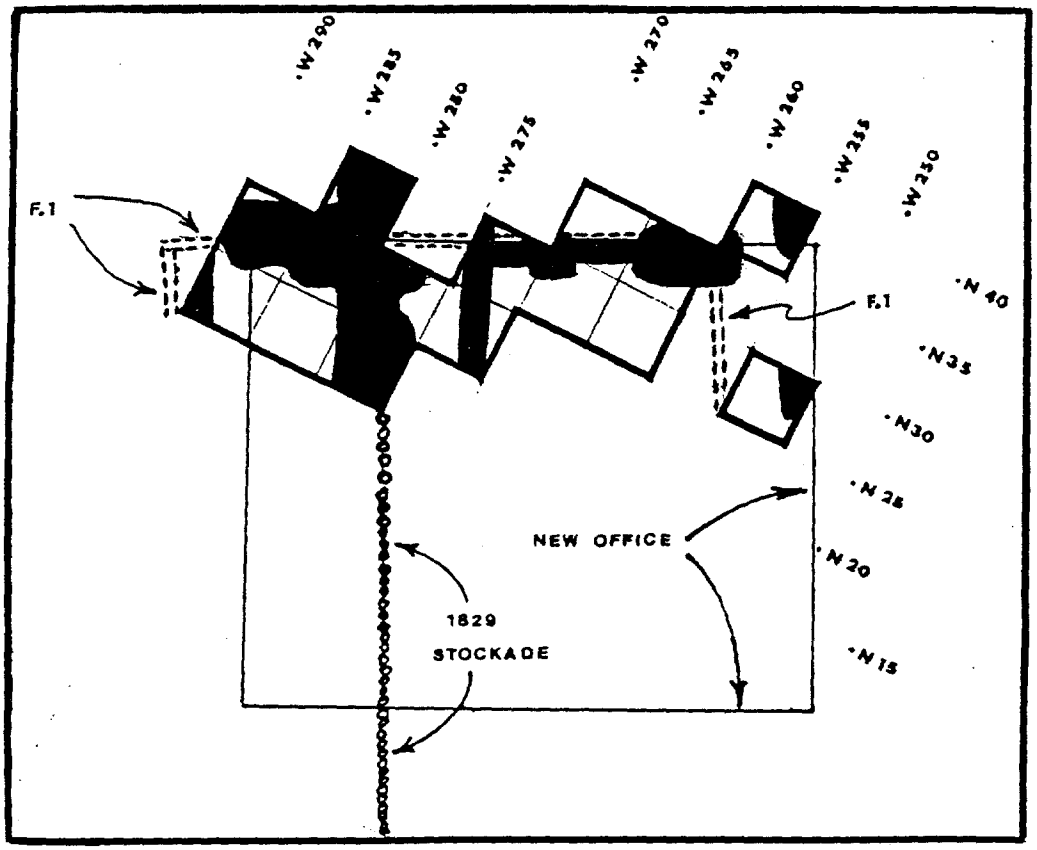


Figure 7a - Location of Louis Caywood test excavations, 1949-1953 (Feature 2--shaded) and NPS asphalt pad perimeter trench (Feature 1)

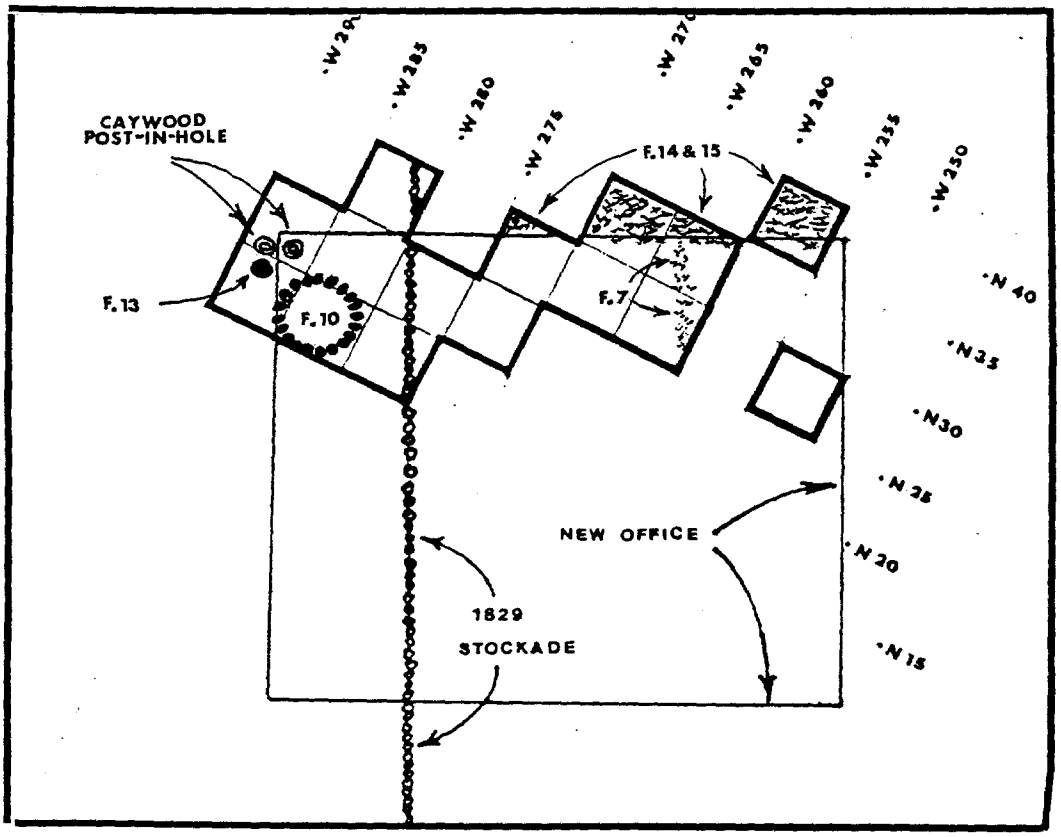


Figure 7b - Location of U.S. Army features, 1894 - ca. 1916

U.S. Army Period Features (Stratum 2 and Stratum 3 Surface)

All U.S. Army features encountered appear to be resultant from construction and activities conducted some time between deposition of the 1894 flood, Stratum 3, and deposition of the World War I gravel, Stratum 2, ca. 1894 - 1916 (Figure 7b). No discernable army features were found in Stratum 4, reflective of post-H.B.C. occupation, ca. 1860 - 1894, and none were found within, or on the surface of the World War I gravel. Three features are significant:

Feature 10 cobble ring was constructed directly on the surface of the flood silt from large water-washed cobbles and boulders ranging in size from 0.3 - 1.0 feet in diameter (Figure 8). Overall diameter varied from 6.0 - 6.5 feet. Within this ring, two circular holes, designated Feature 12, were found that extended to approximately 0.5 feet below the previous flood silt surface. All evidence of the 1894 flood inside the rock ring was disturbed and intermixed with a thin layer of course sand and pea gravel, that capped the underlying H.B.C. Stratum 4. At this time, the function of the feature is unknown, although it was probably associated with temporary field facilities or activities preparatory to construction of the spruce mill. H.B.C.-period artifacts including brick and wood were concentrated below the feature, but also extended outside of the ring in areas capped by the 1894 flood silt. Hence, the spatial association is thought to be circumstantial, with the H.B.C. artifacts associated with H.B.C.-period refuse disposal.

Feature 13 was a round post, in-hole. The post was approximately 1.0 foot in diameter and the post hole intruded into the original 19th century surface approximately 1.2 feet. Post hole fill was pea gravel and silt mix. This depth was probably too shallow to have been a telephone or telegraph pole. Two comparable posts just north of this location were documented by Caywood (Figure 5 and Figure 7b). Based on this triangular array and the large diameter of the posts, they are figured to have been foundation posts for a spruce mill building (note, a panoramic photograph of the spruce mill, on file, Fort Vancouver National Historic Site, indicates the presence of either a large warehouse or loading dock at this location in the fort).

Feature 15 was a very compacted area along the north-northeast edge of the site and is figured to have been an army road. The 1894 flood silt was truncated (or possibly mixed with earlier sediments) and upper Stratum 4 silts

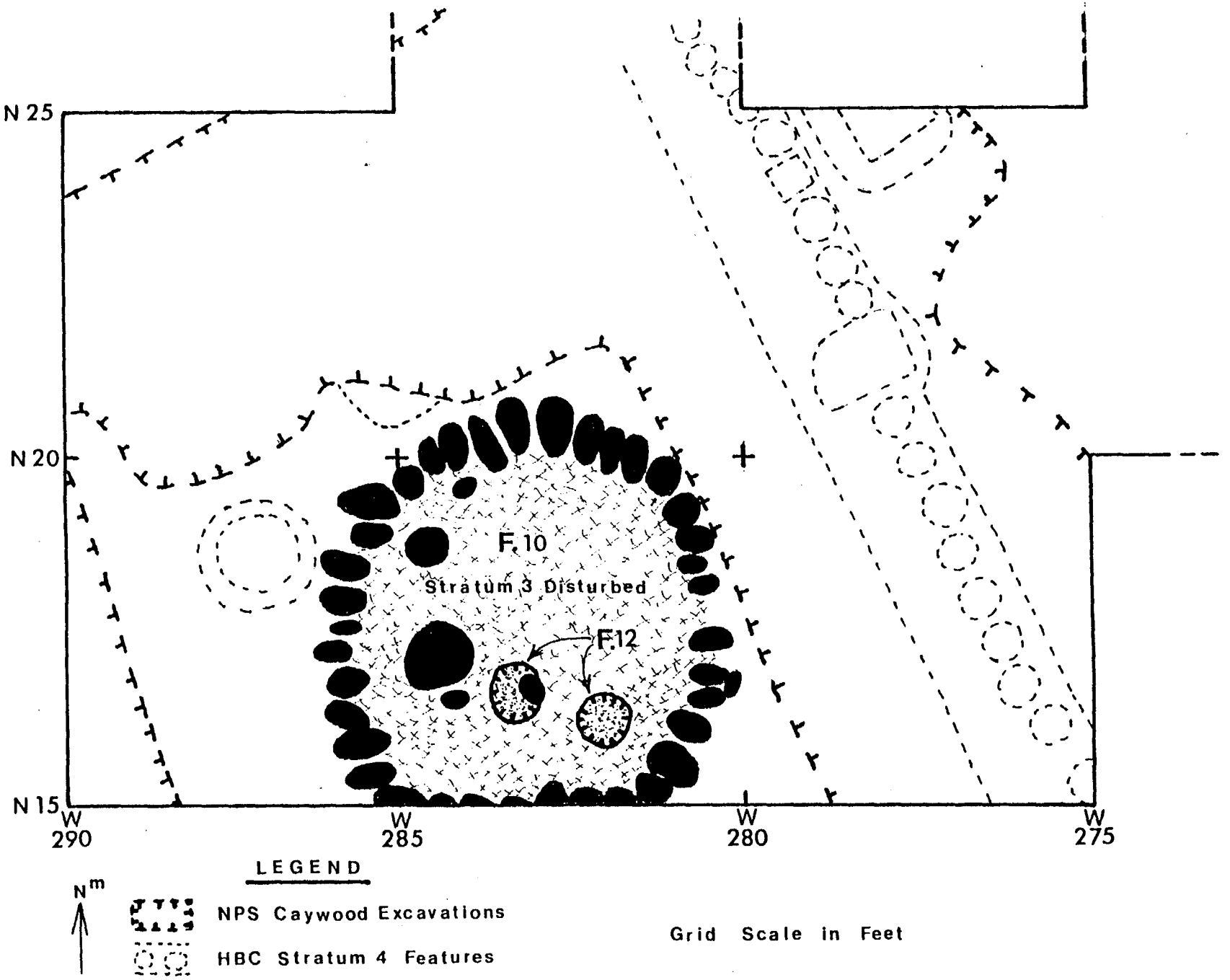


Figure 8 - Plan view of cobble ring, Feature 10, and associated pits, Feature 12 (surface 1894 flood silt, Stratum 3).

were thinly laminated with silt, charcoal, and pea gravel lenses. Highly fragmented H.B.C.-period artifacts were intermixed and an early 20th century sheet metal machine part (truck or auto?) was recovered. Despite the mixture, the H.B.C. artifacts appear to have been simply fragmented in place rather than mixed or redeposited from another location. Comparable deposits were found bordering the southwest corner of the Jail in 1985 (Steele and Hibbs 1986). The existance of the road at this location is curious, for the east-west trend and lateral extent suggests it was intentionally laid out in the open area between the New Office and the Jail. However, the road was presumably built (or more accurately, used) some 30 - 50 years (after the 1894 flood) after all trace of the H.B.C. structures had vanished. Two explanations are plausible,

(1) that an earlier road existed at this location from the end of the fort period, when buildings were still standing, until the 1894 flood, and was simply re-used after the flood, or

(2) that the army used a base map of the fort area that was compiled ca. 1860 when the H.B.C. buildings were still standing. If mapping datum had been designated (likely), the army may have laid out the spruce mill and access corridors with the same orientation as the fort layout. Building locations may have been avoided due to the presence of unstable fill; like refuse heaps, or cellars. This hypothesis has greater merit than first glance, for if true, there existed a cartographically accurate map of the interior fort when all buildings were still standing. Such a map may have been prepared by the U.S. Boundary Commission in 1860 or by the Surveyor General's Office for replatting the H.B.C. territory, ca. 1860-61, not previously included in the interior subdivisions of townships conducted in 1854. This map, if used in World War I, may be on file at the National Archives, War Department, for the period ca. 1916 - 1920. Subsequent research on the World War I features in the fort should explore the spatial and linear relationships of construction to fort layout to generate additional evidence for this map. And, obviously, a search of the National Archives files for the map is justified.

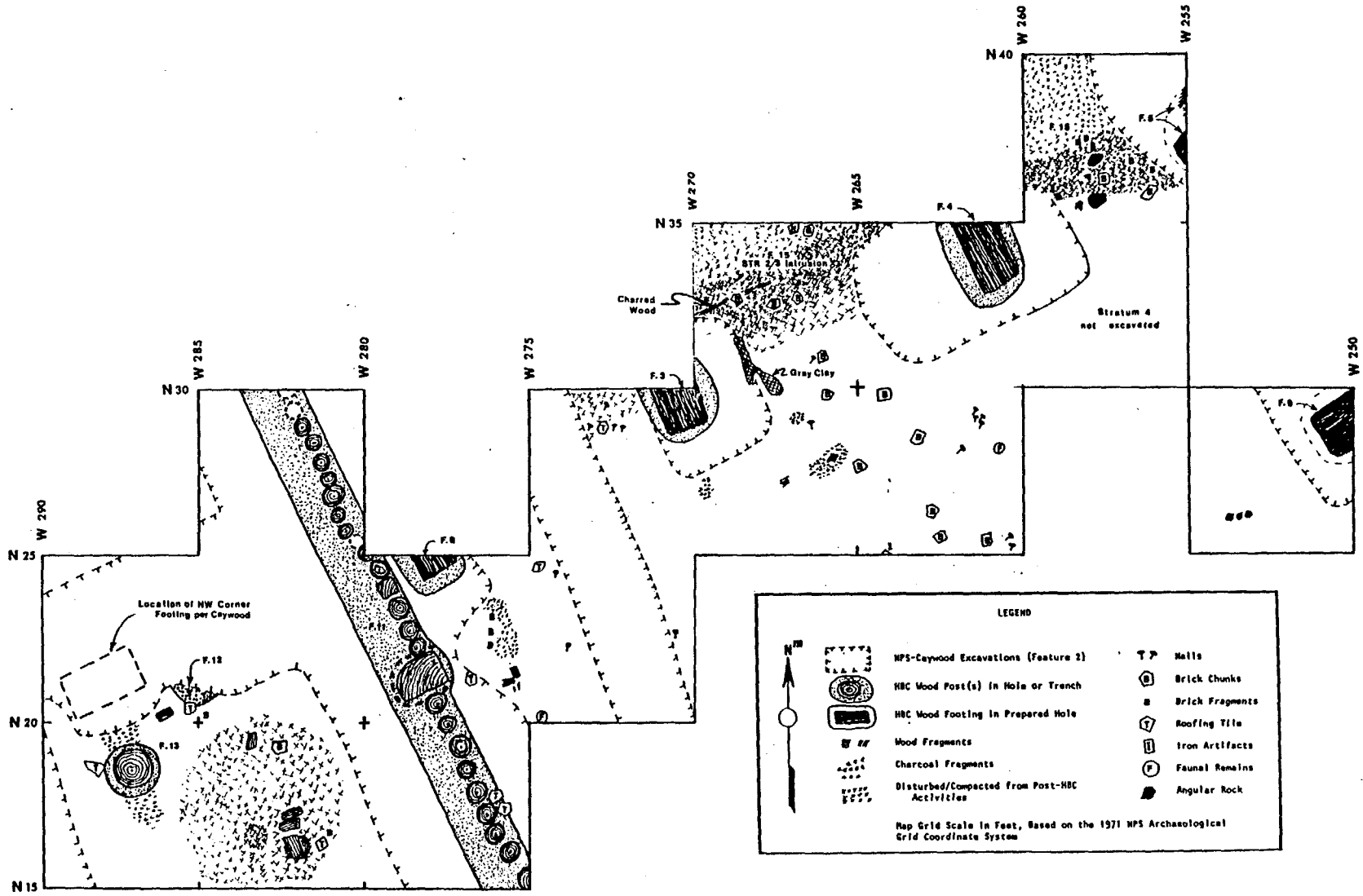


Figure 9 - Plan view of Stratum 4 (pre-1894) features and cultural deposits, including all HBC-associated features.

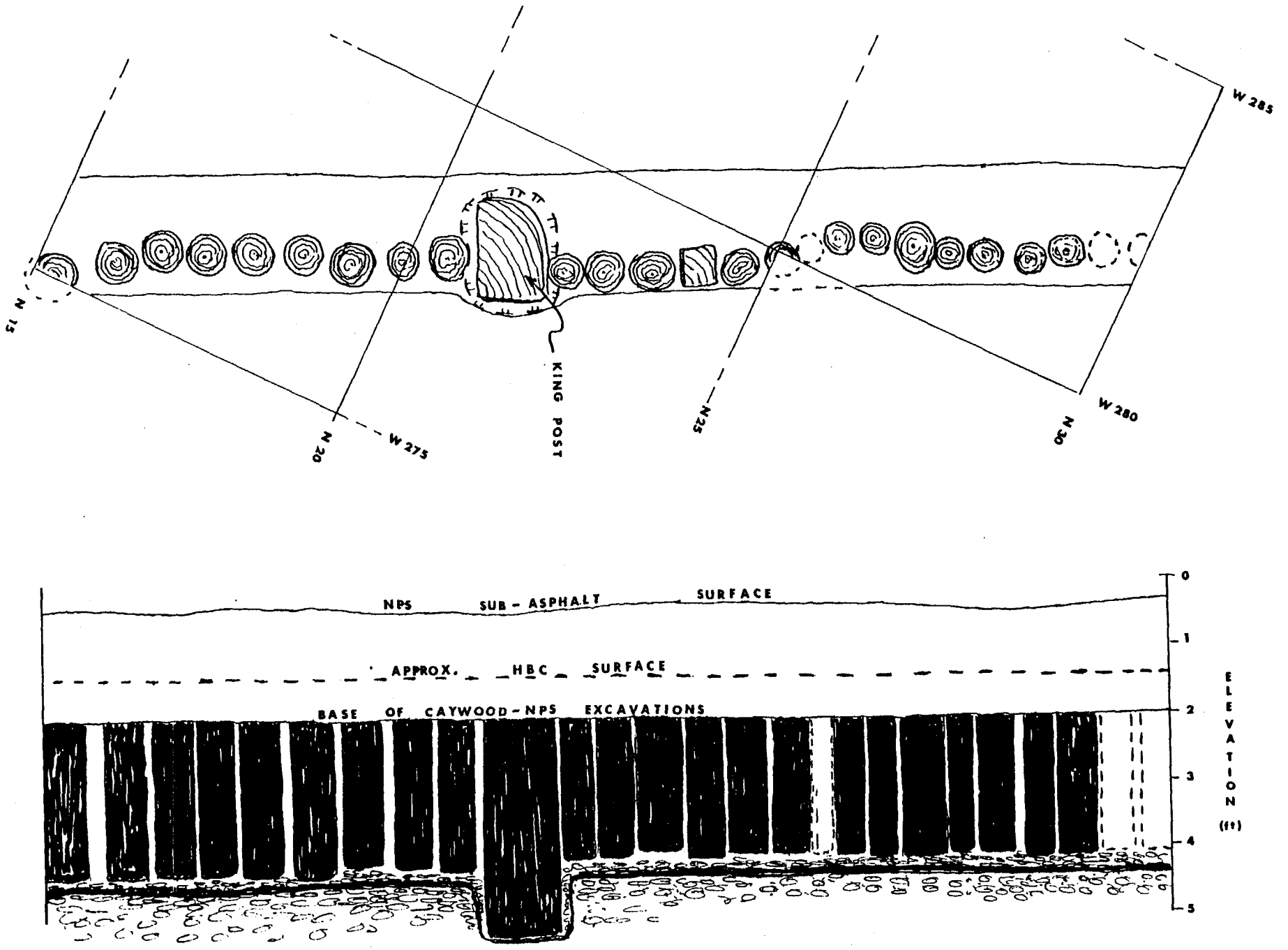


Figure 10 - Plan and crossection of the 1829 East Stockade remains found in the New Office site, 1986.

H.B.C. Features (Stratum 4)

Five footings associated with the New Office and the 1829 stockade pickets, including one king post, comprised the significant H.B.C. features.

Footings included the northeast corner footing, three medial footings along the north wall, and the northernmost medial footing of the east wall. All were previously documented by Caywood and all were charred on the upper surface (Figure 9). Elevation at the base of the footings was approximately Ø.6 - Ø.8 feet below the surface of Stratum 4, approximately the H.B.C.-period surface. There was no evidence for the overall thickness for the footings although Ø.5 - Ø.6 feet would not have been unusual, in order to raise the building sill to the H.B.C. surface. Intervals between footings range from 9 to 11 feet, distances that do not correlate with the hypothesized use of the "FOVA" interval (6.5 feet/13.Ø feet) in the original layout (see previous discussion in History: 1829 Stockade).

The 1829 Stockade was found to be intact with the exception of removal of approximately the upper Ø.6 foot of deposits by Caywood. Twenty-two pickets and one king post were documented (Figure 1Ø). Pickets were irregularly placed round posts averaging 6 to 8 inches in diameter; one square post was documented but this may have been erroneously identified in the field as a stockade picket versus a U.S. Army intrusive post hole. Pickets were placed in a trench excavated 3 feet below the H.B.C. surface, and laid against the east side of the trench (Figures 6, 1Ø). Following construction, the pickets and king post were backfilled from the interior of the fort, against the west side of the stockade. The king post was a split quarter-round of a log, set in a hole at the base of the trench that extended to 4 feet below the H.B.C. surface. The quarter round would have appeared as a post approximately 12 - 14 inches in width and 18 - 2Ø inches in thickness.

Unlike the present-day stockade restoration, the 1829 stockade was probably somewhat "lighter" in appearance and more variable in the type and diameter of timbers used. As indicated, the king post was a quartered round, and one square post may have been integrated with the pickets. A notable interval varying from 2 - 4 inches was found between the pickets that was filled with relatively non-organic fill. This suggests that there may have been substantial visible gaps between the pickets, contrary to the later stockade constructions (c.f. Hussey 1972: 1-25 for discussion of picket infill with stakes).

Based on the depth-below-surface of the trench and king post hole (three and four feet respectively) a likely above ground height was 12 - 16 feet (multiple of 4:1 above versus below ground). A stockade built greater than that height would probably have collapsed from winds.

Table 1: Features Associated with the 1986 Excavations (FOVA 2384) at the New Office.

N.P.S. Features (Stratum 1, ca. 1940's - Present), Figure 7a

Feature 1	Trench for concrete curb border around the asphalt interpretive pad (ca. late 1960's).
Feature 2	Archaeological trenches and pits associated with Louis Caywood's excavations (ca. 1950 - 1953).
Feature 6	Gravel and mortar walkway, running east-west along the north edge of the site (ca. late 1960's - 1970's).

U.S. Army Features (Stratum 2 and 3, 1894 - 1940's), Figure 7b and Figure 8

Feature 7	Linear sand lens, compressed vehicle track in 1894 flood surface, possibly from spruce mill construction (1894 - ca. 1916).
Feature 10	Circular rock ring, approximately six feet diameter, on 1894 flood silt surface (Figure 8), possibly a pre-World War I field or bivouac feature (1894 - pre-1916).
Feature 13	Post-in-hole, uncut log post with flat base in circular hole, packed with pea gravel and water washed gravel (ca. 1916). Post 12 - 13" diameter, hole 18" diameter base at 2.6' dbs.
Feature 14	Linear silt lens associated with the south edge of Feature (15 U.S. Army road).
Feature 15	Very compacted platy H.B.C. surface with crushed artifacts, 1894 flood silt fully truncated, probably a U.S. Army road running east-west along the north edge of the site (1894 - ca. 1916).

H.B.C. Features (Stratum 4, 1829 - ca. 1860), Figure 9 and Figure 10

Feature 3 — New Office foundation footing, wood block with charred surface center medial, north wall (1845 - 1860's).

Feature 4 — New Office foundation footing, wood block with charred surface, east 1/4 medial, north wall (1845 - 1860's).

Feature 5 — New Office foundation footing, wood block with charred surface, northeast corner (1845 - 1860's).

Feature 8 — New Office foundation footing, cast of wood block, charred wood fragments, west 1/4 medial, north wall (1845 - 1860's).

Feature 9 — New Office foundation footing, wood block with charred surface, north 1/4 medial, east wall (1845 - 1860's).

Feature 11 — Stockade trench with wood pickets, east wall, 1829 stockade (1829 - ca. 1836), and includes pickets, designated Feature 11.1, and trench backfill, designated Feature 11.2 (Figure 10).

Feature 12 — Partial pit, truncated by Caywood excavations, possible trash pit or edge of post hole.

ARTIFACTS

Artifact recovery from the project area comprised 100% recovery of all objects, fragments, and material remains that were of human origin from all strata including 20th century deposits (Stratums 1 and 2).

Artifacts of all types were surprisingly scarce despite screened recovery. A total of 5,637 artifacts (excluding miscellaneous materials) were recovered from all strata. 3,043 items were recovered from in-situ 19th century deposits (contained in Stratum 3 and 4), or approximately 54% of all artifacts (Table 2). Based on the total area of in-situ deposits excavated, approximately 51% of the sample area, total artifact frequency averaged 15.9 artifacts per square foot (Table 3).

Two aggregates, or clusters, of artifacts were identified for the 19th century strata, and presumably deposited during the H.B.C. period (Figure 11):

1. One cluster is located near the northwest corner of the New Office, west of the 1829 stockade. Although unit frequencies are probably scewed, due to the small amount of area left from the Caywood excavations, artifacts were significantly more frequent than easterly areas. Fragments of brick, roofing tile, wood, and ceramics were also significantly larger in size, indicative of (probably) a primary refuse deposit. Notably, a central focus of this aggregate was Feature 10, rock ring, which overlay construction artifacts.

2. A second aggregate was found in the north central area of the north wall of the New Office. Here, most types of artifacts were found in close association, notably ceramics, glass, nails, and brick. However, fragment size was very small. For instance, ceramic, glass and brick fragments rarely exceeded 1/2 inch in diameter. The aggregate is associated with very compact lensed strata designated Feature 15.

Table 2 - Frequency of Artifact Types Recovered from the New Office Site, 1986

Ceramics				591	7.51%
Common Pottery		7	.09		
Earthenware		532	6.76		
Undecorated	261				
Transfer Print	261				
Other	10				
Stoneware - Buff Paste		32	.41		
Salt Glaze	22				
Other	10				
Stoneware - Misc. Paste		1	.01		
Porcelain		19	.24		
Handpainted	7				
Decorated	7				
Other	5				
Ceramics Totals		591	7.51	591	7.51
Glassware				730	9.27
Bottle Glass		672	8.54		
Clear	200				
Green	166				
Brown	43				
Dark Olive	194				
Aqua	19				
Amber	8				
Other	42				
Table Glass		49	.62		
Non-Construction Glass		9	.11		
Glassware Totals		730	9.27	730	9.27
Tobacco Pipes				127	1.61
Misc. Personal Items				6	.07
Coins		3	.035		
Pencils		3	.035		
Mis Personal Items Total		6	.07	6	.07
Construction Items					
Masonry		1224	15.56	3164	40.21
Tile	286				
Red Brick	670				
Yellow Brick	209				
Other	59				
Nails		1125	14.30		
Wrought	262				
Cut	601				
Wire	117				
Non-Ferrous	12				
Unidentified	113				
Fasteners		39	.49		
Unthreaded	33				
Threaded	6				
Building Hardware		5	.06		
Hinges	2				
Other	3				

Table 2 (cont.)

Other Construction		771	9.80		
Window Glass	760				
Other	11				
Construction Totals		3164	40.21	3164	40.21
Weaponry				18	.23
Ammo		14	.18		
Shot	14				
Other		4	.05		
Weaponry Totals		18	.23	18	.23
Tools				4	.05
Unidentified		1	.0127		
Metal Shim		1	.0127		
"Spud"		1	.0127		
Cuprous O-Ring		1	.0127		
Tools Totals		4	.05	4	.05
Other Hardware				5	.06
Metalware				24	.31
Personal Apparel				5	.06
Buttons		2	.025		
Other		3	.038		
Personal Apparel Totals		5	.06	5	.06
Ornaments				68	.85
Beads		64	.80		
Jewelry		4	.05		
Ornaments Totals		68	.85	68	.85
Other Artifacts (modern)				25	.32
Unidentified Metals				697	8.86
Cuprous		3	.04		
Ferrous		675	8.58		
Other		19	.24		
Unidentified Metal Total		697	8.86	697	8.86
Unidentified Glass		1	.01		
Subsistance				172	2.18
Bone		167	2.12		
Shell		5	.06		
Subsistance Totals		172	2.18	172	2.18
Misc. Material				2232	28.37
Minerals		29	.37		
Wood		552	7.01		
Charred Wood - Charcoal		711	9.04		
Coal - Clinkers		598	7.60		
Other		342	4.35		
Misc. Materials Totals		2232	28.37	2232	28.37
GRAND TOTALS		7869	99.98	7869	99.98

ARTIFACT FREQUENCY
(Total Specimins/Relative Frequency)

Grid Unit	Undisturbed HBC Area (Ft2)	All Artifacts	Ceramic Ware	Bottle Glass	Ceramic Pipes	Bone	Brick	Roofing Tile	Square Nails	Window Glass
N20W280	1.4	1/ 0.7	-	-	-	-	-	-	-	1/0.7
N20W285	24.0	303/12.6	43/1.8	26/1.1	4/0.2	23/1.0	37/1.5	32/1.3	63/2.6	17/0.7
N20W290	20.8	244/11.7	26/1.3	51/2.5	4/0.2	19/0.9	28/1.3	7/0.3	4	10/0.5
N25W275	12.1	151/12.5	26/2.1	15/1.2	3/0.2	2/0.2	20/1.7	4/0.3	39/3.2	28/2.3
N25W280	7.4	79/10.7	13/1.8	0/0.0	2/0.3	0/0.0	21/2.8	10/1.4	3/0.4	7/0.9
N25W285	5.1	47/ 9.2	7/1.4	2/0.4	0/0.0	1/0.2	5/1.0	1/0.2	17/3.3	11/2.2
N25W290	1.9	68/35.8	14/7.4	3/1.6	0/0.0	0/0.0	5/2.6	2/1.1	13/6.8	5/2.6
N30W255	16.2	206/12.7	9/0.6	10/0.6	6/0.4	15/0.9	36/2.2	0/0.0	35/2.2	21/1.3
N30W265	25.0	288/11.5	22/0.9	32/1.3	12/0.5	6/0.2	40/1.6	2/0.1	46/1.8	46/1.8
N30W270	20.5	307/15.0	25/1.2	32/1.6	5/0.2	10/0.5	68/3.3	1/0.0	49/2.4	32/1.6
N30W275	11.6	68/ 5.9	5/0.4	15/1.3	0/0.0	0/0.0	0/0.0	3/0.3	29/2.5	12/1.0
N30W285	0	-	-	-	-	-	-	-	-	-
N35W265	6.5	299/46.0	31/4.8	43/6.6	5/0.8	0/0.0	63/9.7	0/0.0	30/4.6	82/12.6
N35W270	21.4	655/30.6	39/1.8	92/4.3	14/0.7	15/0.7	196/9.2	1/0.0	126/5.9	88/4.1
N40W260	17.8	142/ 8.0	25/1.4	9/0.5	4/0.2	5/0.3	21/1.2	1/0.1	52/2.9	26/1.5
TOTAL	191.7									

Total % undisturbed = 51.12%

Table 3 - Distribution of Undisturbed 19th Century Strata and Significant Artifact Types

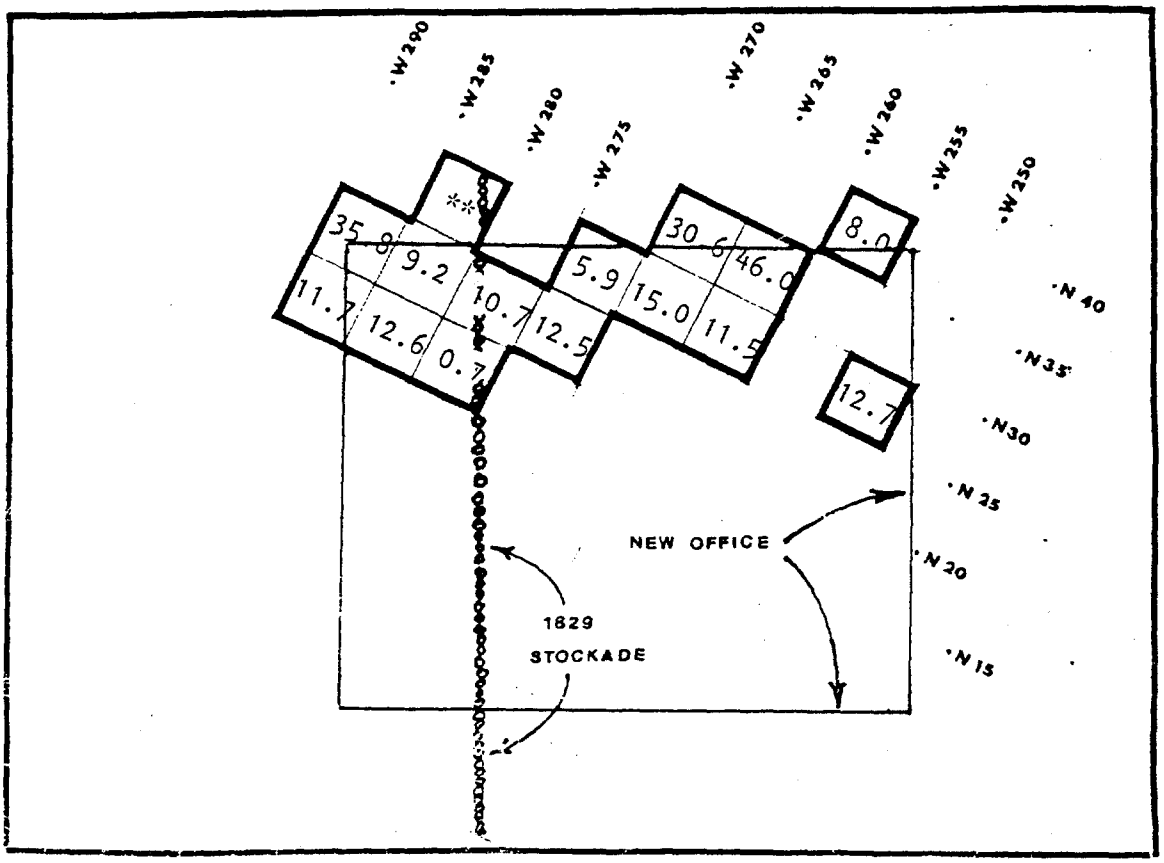


Figure 11 - Distribution of all artifacts, expressed by relative frequency per ft^2, recovered from undisturbed HBC strata.

Due to the compacted sediments, the feature was hypothesized as a U.S. Army road bed located between the New Office (on the south) and the Jail (on the north). Hence the fine fragmentation noted may have been a result of road fracture. Nevertheless, the overall diversity of artifacts and frequency of fracture resistant articles, like nails, suggest that a primary refuse deposit was located in this area prior to use of, and fragmentation from, the road.

Household and Furnishings Items

Ceramic Wares and Containers:

A total of 283 fragments of ceramic table wares and product containers were recovered from in-situ H.B.C. deposits; none were reconstructable to original ceramic form. As shown in Table 4, transfer-printed white earthenware fragments were most numerous, and most patterns recognized were of Copeland-Spode manufacture. Lily Pattern printed in blue was the most frequent pattern found (Figure 12). Although fragments were small, flatwares such as dinner plates, soup plates, and saucers are most represented. "Lily" was also the most frequent pattern recovered from the Jail, adjacent to the north (Steele and Hibbs 1986: 38). Other identifiable patterns were scarce. Of the Copeland-Spode patterns, fragments of Aesop's Fables (blue), Broseley (blue), Warwick (red), and Willow (blue), were recognized but were too scarce to suggest significant use in the New Office site. A non-Copeland-Spode pattern, Bamboo (blue) was also recognized.

Other earthenwares commonly found at the fort were scarce or altogether absent. Banded ware (light blue-on-white) was recovered, but cottage ware and mocha ware were not found. As in the printed wares other than Lily, all other earthenwares were too infrequent to suggest significant use at the New Office site.

Table 4 Ceramic Wares Recovered From Undisturbed H.B.C. Strata, FOVA 2486

	H.B.C. Strata		
Common Pottery, Lustreware			1
Earthenware			264
White Paste, Clear Glaze Fragments		262	
Undecorated wares	4		
Underglaze Transfer Printed Wares	138		
Aesop's Fables Pattern (Blue)	1		
Bamboo Pattern (Blue)	1		
Broseley Pattern (Blue)	4		
Lily Pattern (Blue)	48		
Warwick Pattern (Red)	2		
Willow Pattern (Blue)	2		
Unidentified Chance Variety #100	1		
Unidentified Blue Fragments	72		
Unidentified Green Fragments	1		
Unidentified Bluish-Grey Fragments	4		
Unidentified Flow Blue Fragments	2		
Banded Wares	1		
Lt. Blue on White Fragments	1		
Unidentifiable White Clear Glaze Frags.	119		
Black Glazed White Paste Ware Fragments		1	
Clear Glazed Creamware Snuff Bottle Frag.		1	
Porcelain (Chinese)			8
Greenish Gray Southern Ching (Qing), "Canton Ware"		4	
Undecorated Fragments	1		
Blue Decorated Fragments	3		
Blue and White Fukien-Wares		2	
Orange Decorated Polychrome Export Ware		1	
Unidentifiable Undecorated White Fragment		1	
Stoneware			10
Ink/Blacking Bottle Fragments		7	
Brown Salt Glaze, Interior Lt. Gray Glaze Bottle Fragments		1	
Orange Salt Glaze, Unglazed Interior, Fragments		2	
TOTAL			283

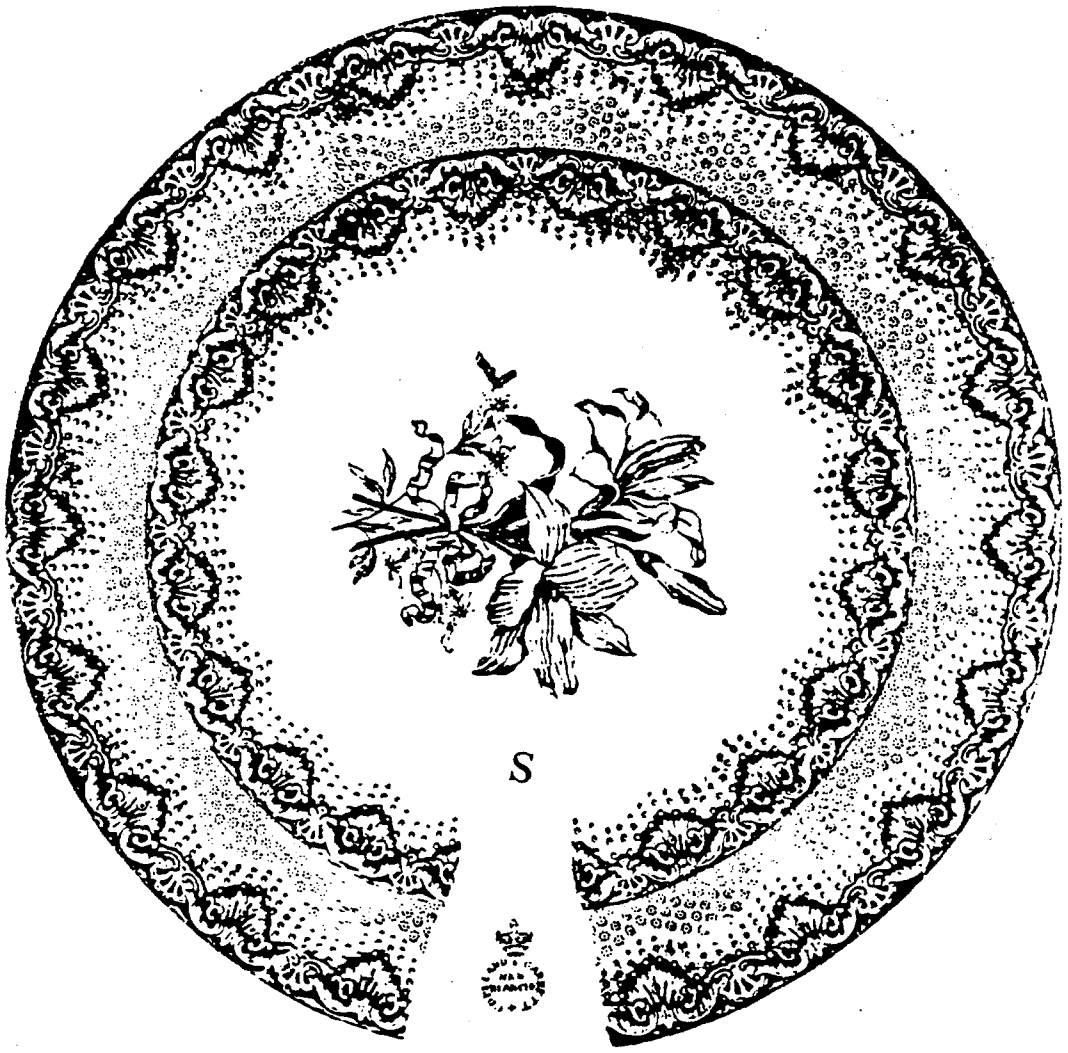


Figure 12 - "Lily" pattern transfer printed earthenware manufactured by Copeland and Garrett.

Porcelain fragments were scarce but included two important types of Chinese Export Ware. Two fragments of Blue-and-White Wares, probably manufactured at Tehua in Fukien Province from 1800 - 1810 were recovered (Alison Stenger: personal communication). These fragments appear to be from a floral decorated cup or bowl, illustrated in Figure 13a, and a saucer or underplate fragment with geometric script decoration, illustrated in Figure 13b. This second specimen is probably the underplate to a pots-de-creme, a covered cup with matching underplate; the underplate typically had a raised ring for containing the cup and in the fragment recovered, a slight up-curvature at the fragmentation point is suggestive of such a ring. This form was used for individual servings of custard desserts and typically were retailed to western Europe and the U.S. markets in matched or complimentary patterns.

The second type of ware recovered was a cup rim fragment with orange overglaze hand painted decoration (Figure 17c). The rim is typically associated with hand painted polychrome "Famille Rose" decorated wares manufactured at Ching-te-chen from approximately 1760 - 1810. Several nearly complete cups were recovered by Caywood from a nearby privy, "Trash Pit 7", located inside the 1829 - 1836/37 East Stockade, and 15 feet north of the project area. Caywood's provenience indicates that the ware was undoubtedly in use in the first fort. Similarly, this ware, as well as Fukien blue-and-white porcelain has also been reported from other early fur trade forts in the northwest forts, including Fort Okanogan, occupied 1811 - ca. 1831 (Grabert 1968) and Fort Spokane, occupied 1811 - ca. 1826 (Caywood 1954). Both of the structures were occupied successively by Astor's Pacific Fur Company, the Northwest Company, and the Hudson's Bay Company. As Stenger (1987) has suggested in a recent technical study of Chinese blue and white porcelain found at Fort Vancouver, the reoccurrence of earlier Chinese Export Wares may reflect supply patterns prevalent from 1811 - ca. 1830. As indicated by the Fort Vancouver specimens, these wares were probably still in use until at least the mid-1830's.

Other Chinese porcelain recovered included Canton Export Ware fragments. This ware is generically hand-painted blue under-glaze with a grayish-white, opaque paste and was manufactured in southern China in and around Canton throughout the first half of the 19th century. The ware has been found at all buildings throughout the fort and may have been in use throughout the H.B.C. occupation.

Stoneware container fragments were scarce. Most prevalent were ink/blacking bottle fragments, undoubtedly related to the clerical functions of the offices.

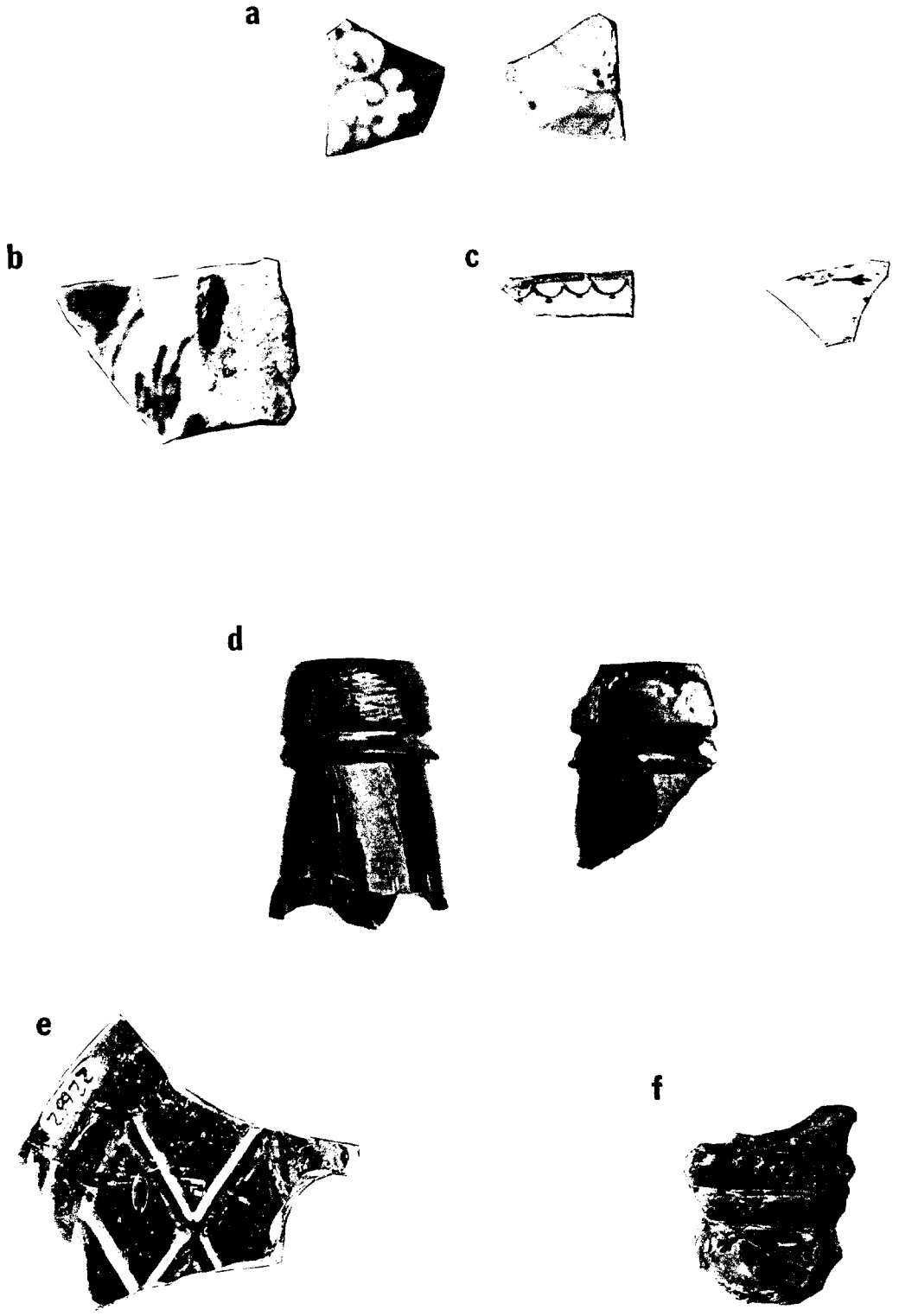


Figure 13 - Miscellaneous ceramic and glass ware fragments found in the New Office: (a-b) Chinese, Tehua, blue-and-white export porcelain; (c) Chinese famille rose orange decorated porcelain; (d) dark olive bottle rims; (e) bluish green pattern-molded flask fragment; (f) clear pressed compote (?) stem.

The distribution of ceramic ware fragments, illustrated in Figure 14, generally coincides with peak frequencies of all artifacts. The Chinese blue-and-white, and polychrome fragments were recovered from the west 1/2 of the project area in the vicinity of the 1829 stockade and may represent deposition prior to 1836-37. "Lily" pattern transfer-printed ware was found throughout the project area, and probably is associated with either the "Modeste" officers or clerks residency at the New Office.

Bottle Glass and Glassware:

Of 730 bottle and table glass fragments recovered from the excavations, 380 fragments were from in-situ 19th century strata, all of which appear to have been derived from the H.B.C. occupation. The in-situ assemblage is discussed below with respect to ware colors, types, and historical association.

Bottle glass fragments reflect a wide range of containers, based on glass colors. A total of 350 fragments were recovered, and with the exception of three diagnostic fragments illustrated in Figure 13, all were very small fragments. No trademarked specimens were recovered.

The frequency of bottle glass colors, with inferred container types, is listed below:

Table 5 - Bottle Glass Fragments and Inferred Container Types Recovered from the New Office

Glass Color	Frequency	Inferred Container Type
Clear	105	Apothecary/Medical Bottles
Clear Green	83	Food/Condiment Bottles
Olive/Dark Olive ("Black Glass")	122	Rum, Poster, Bitters, Wine, Champagne Bottles
Aqua	11	Food/Condiment Bottles
Amber/Brown	20	Whiskey/Bitters Bottles
Blue	1	Unknown
Unidentifiable Melted	8	--

Clear bottle glass fragments were relatively common compared with other colors, suggestive that a medical dispensary may have been associated with either the Old Office or the New Office.

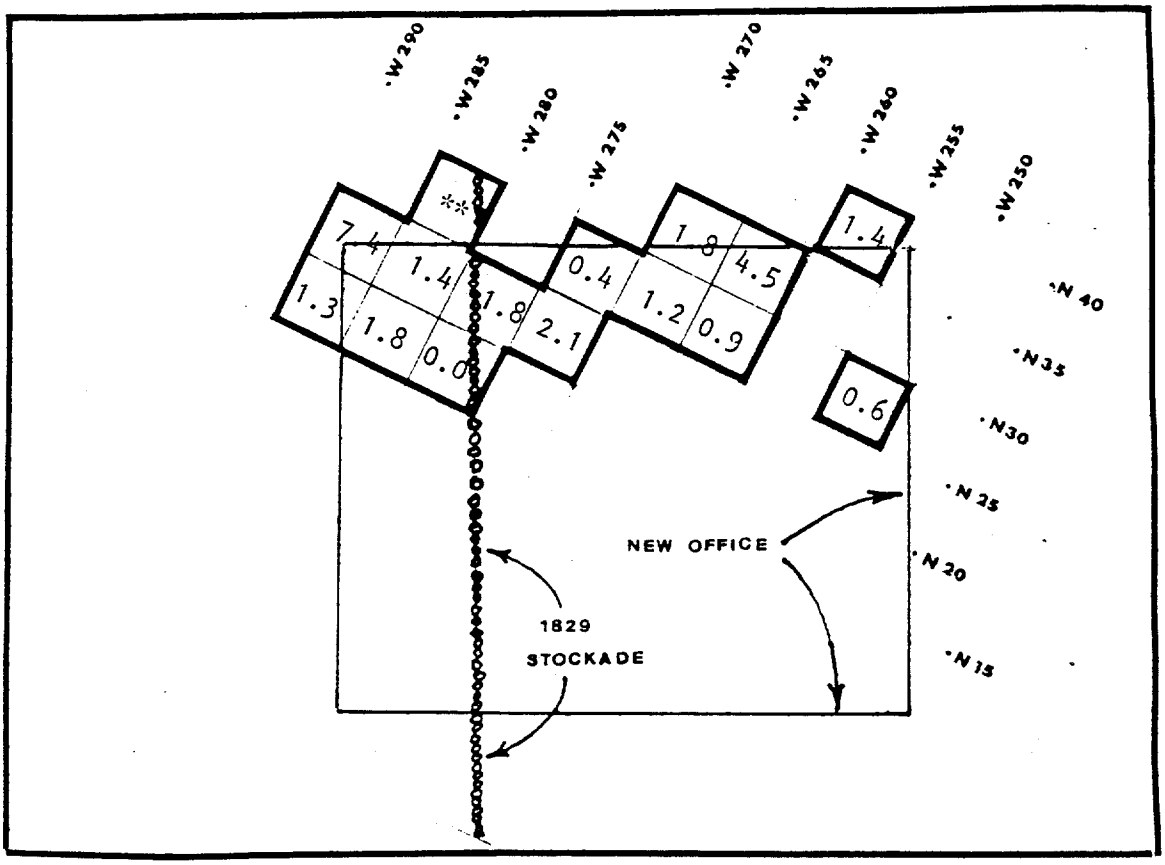


Figure 14 - Distribution of all ceramic ware fragments, expressed by relative frequency per ft^2, recovered from undisturbed HBC strata.

Dark olive, or "black glass" fragments were most frequently recovered, typical for all other building sites in the fort. However, the frequency was very low, suggestive that alcoholic beverages were not commonly dispensed in the area. Two rum bottle rims, illustrated in Figure 13d were the only diagnostic fragments recovered.

Clear green tinted fragments, have normally been associated with food and/or condiment containers when found in complete bottles. However, one fragment from a pattern molded flask is suggestive of an alcoholic beverage bottle (Figure 13e). This bottle type has not been previously documented at the fort. While the article may have been supplied from England, pattern molded flasks are generally associated with eastern United States manufacturers (see for instance McKearin & McKearin 1948).

The flask fragment recovered is a "flat diamond" or "diamond quilted" pattern. In the U.S., this pattern was manufactured in New England and the Ohio Valley during the early 19th century.

The distribution of bottle glass, illustrated in Figure 15, is equivalent to that of all artifacts, with peak frequencies recovered near the northwest corner and north central portion of the New Office. As with all artifacts, it is hypothetical whether these activities in the New Office or from some other structure or time period were responsible for the deposition, due to the limited excavation sample.

Table glass fragments were sparse. Of the diagnostic fragments, two blown undecorated tumbler rims and one stem fragment of a pressed compote, or other larger footed vessel, was recovered.

The pressed stem fragment, illustrated in Figure 13f, is typical of fire-polished, lead (or "flint") glass pressed tableware manufactured in the United States and England between approximately 1840 and 1870 (Ibid). This type of glass replicated the cut flute and panel decoration being produced by blown glass firms. Pressed glassware is rare at Fort Vancouver, reflective of the predominance of British cut and blown glass in the supplies to the fort. Nevertheless, individual pressed articles may have entered the fort as personal possessions from ca. 1840 onward or as supplies during the 1850's. In the context of the New Office, this pressed compote may have arrived with the officers of the Modeste. In any event, the probable post-1840 date of manufacture suggests that the article was used in the New Office.

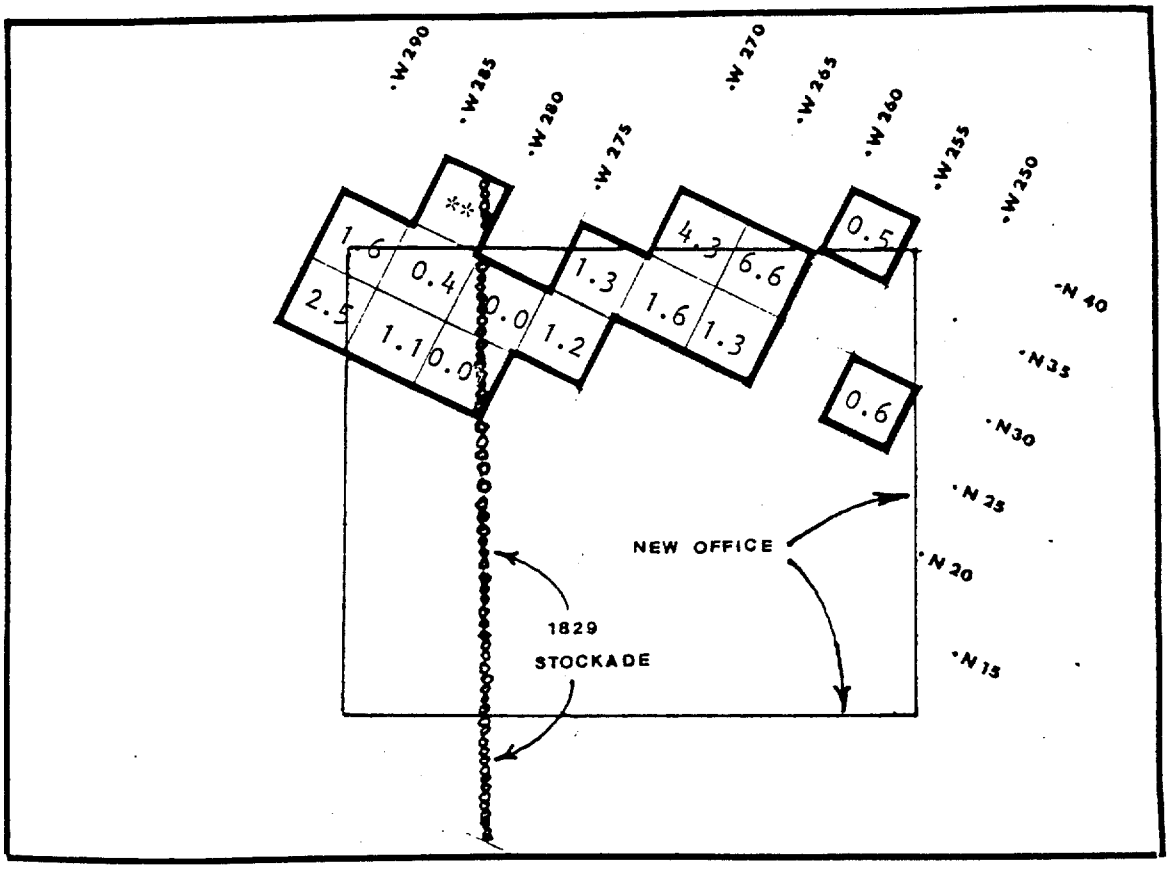


Figure 15 - Distribution of all bottle glass fragments, expressed by relative frequency per ft^2, recovered from undisturbed HBC strata.

Personal Items

Ceramic Smoking Pipes

All ceramic smoking pipe fragments recovered were fragments of white unglazed ball clay pipes, also reported as "Kaolin pipes". A total of 127 fragments were recovered in 1986, and 63 fragments were from in-situ 19th century strata. All are probably derived from the H.B.C. occupation period. Several marked fragments of "Ford Stepney" pipes were recovered, but the specific pipe styles or trademark variants were not identifiable. This is the most common pipe manufacturer found at the fort and has been extensively reported elsewhere (c.f. Ross 1976). One fragment of a "McDougal"-marked pipe stem was also recovered. The McDougal pipes, usually marked McDougal Glasgow, were probably manufactured by Duncan McDougal and Company, Glasgow, after 1847 (Oswald 1975: 205). They may have been used by either H.B.C. or U.S. Army personnel at the fort during the 1850's.

The distribution of ceramic smoking pipes, illustrated in Figure 16, is centered about the north central portion of the New Office, comparable with clustering other artifacts noted earlier. However, they are relatively scarce in the northwest corner, unlike ceramics ware, bottle glass and other artifact types.

Glass Beads

Glass trade beads were scarce in the New Office area. Altogether, 64 glass beads were recovered from the 1986 excavations, and 18 specimens were from in-situ cultural deposits. All were probably derived from the H.B.C. period of occupation. However, as 72% of the beads were recovered from disturbed or redeposited strata, principally Caywood's backfill, there is little evidence that beads were significantly associated with the New Office area. Ten 2-piece molded lucite (?) imitation beads from the N.P.S. interpetive sales were also recovered, all from the modern Stratum 1. While the beads and stratigraphic context posed no research problems, the incidence suggests that future deposition of N.P.S. reproductions manufactured from raw materials comparable to the H.B.C. period may become intermixed with authentic artifacts, especially in areas not protected by the later U.S. Army and N.P.S. strata (as in the south 1/2 of the fort). Maintenance of a type collection of the various reproduced artifacts for sale will prevent spurious associations in the future.

All trade beads recovered from the site were included in the N.P.S. Museum Diagnostic Collection. The following bead varieties and their frequency, listed in Table 6, were catalogued (variety numbers after Ross 1976).

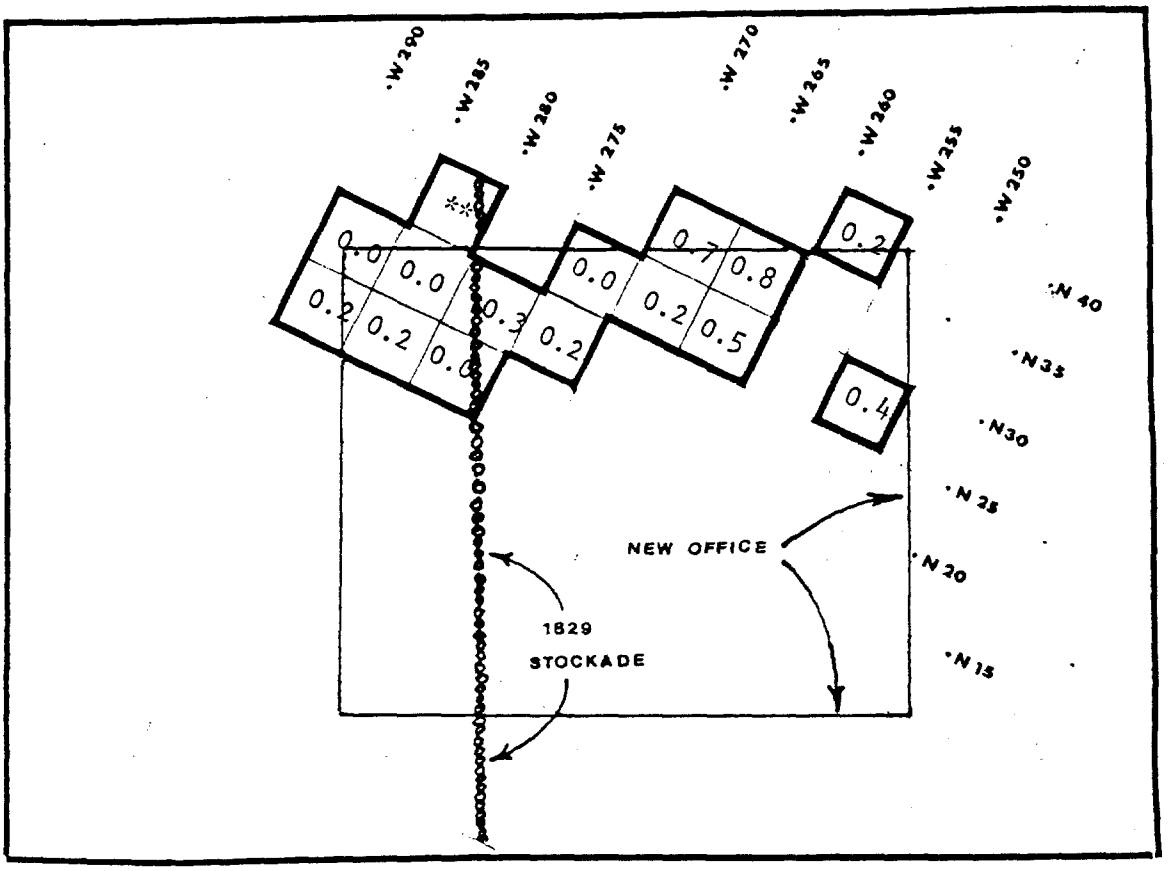


Figure 16 - Distribution of all ceramic pipe fragments, expressed by relative frequency per ft^2, recovered from undisturbed HBC strata.

All trade beads recovered from the site were included in the N.P.S. Museum Diagnostic Collection. The following bead varieties and their frequency, listed in Table 6, were catalogued (variety numbers after Ross 1976).

Table 6 - Glass Bead Varieties Recovered from the New Office (All Strata)

NPS Variety Number	Frequency	Description
1003	6	Opaque white hot tumbled tube beads.
1016	3	Translucent green hot tumbled tube beads.
1035	1	Transparent blue on translucent light blue faceted double layer extruded cane bead.
1037	2	Transparent red on opaque white double layered hot tumbled tube beads.
1040	11	Opaque cream on opaque cream double layered hot tumbled tube beads.
1053	1	Opaque green hot tumbled tube beads.
1057	1	Opaque dark reddish purple faceted tube beads.
1063	14	Translucent greenish-blue hot tumbled tube beads.
1074	2	Transparent greenish blue hot-tumbled.
2002	13	Opaque blue spherical wire wound beads.
2005	4	Transparent greenish-blue spherical wire wound beads.
2006	1	Opaque dark blue spherical wire-wound beads.
2018	4	Translucent blue spherical wire wound beads.
2057	1	Transparent dark amber barrel-shaped wire wound beads.

Bead frequencies within in-situ strata were insufficient to justify preparation of a distribution map at this time. However, the proportion of bead types found in undisturbed strata may have some chronological implications, given the proximity of the sample area to the pre-1836/37 fort.

First, as shown in the following Table 7, wire-wound beads were twice as frequent than cane and hot-tumbled tube beads. Although the sample is small, the ratio is at considerable variance with ratios found at other fort locations, where cane and tube beads far outnumbered wire-wound beads. For instance, at the Fur Store, only 1% of the bead types were wire-wound (Hoffman and Ross 1974: 37) and at the Indian Trade Store, only 2.7% were wire-wound (Hoffman and Ross 1975: 35). While the disparity may be in part due to differences in collection techniques (for instance, at the Fur Store, beads were water-screened through fly-screen mesh), at the Sales Shop, excavated by O.A.S. using comparable dry screens, wire-wound beads also only constituted 1% of these types (Steele et. al. 1975: 43).

Table 7 - Summary of Beads Recovered from Undisturbed 19th Century Strata, New Office Site, 1986 Excavations.

N.P.S. Variety No.	Color	Frequency
Cane and Hot Tumbled Tube Beads		6
1035	Blue Faceted	1
1040	White-On-White	2
1063	Blue	3
Wire-Wound Beads		12
2002	Blue	8
2005	Greenish-Blue	2
2006	Dark Blue	1
2018	Blue	1

Second, the limited bead colors suggest deposition during the early fort period. Blue beads, and variations of blue beads, and white beads were the only colors recovered. And blue beads were nine times as frequent as white beads. As observed by Lewis and Clark (Thwaites 1905) and discussed by Ross (1976), blue and white beads were preferred (to the exclusion of other colors) by the Native-American community along the lower Columbia River in the early 19th century. Of those, blue beads were the preferred color. The multiplicity of other colors found at the fort and indicated in the 1844-46 H.B.C. inventories published by Hussey (1972) were probably deposited later in the 19th century. The New Office data suggests that this elaboration may not have occurred until after ca. 1936/37.

Other Household and Personal Artifacts

One other possible household item was recovered, a brass finial fragment, possibly from a metal cookware. Two buttons were recovered from disturbed cultural deposits (Caywood) and were catalogued in the N.P.S. Diagnostic Collection. They include a metal (probably pewter) rimmed porcelain sew-through button, Prosser-molded type, illustrated in Figure 17a, and an amber cut-glass sew-through button fragment, illustrated in Figure 17b. It is unknown whether these are associated with H.B.C. or U.S. Army personnel, however, both were probably in use during the life of the fort, ca. pre-1866.

Subsistence Remains

Bone fragments were the only evidence of subsistence in the project area. Cursory examination of larger specimens indicate that deer and (probably) cow bone were principally deposited. One vertebra (fragmented) from a large sea mammal, either a sea lion or a small whale was recovered from Stratum 4, H.B.C. deposits. Altogether 103 bone fragments were recovered from in-situ strata and all were probably deposited by the H.B.C.

The distribution of bone fragments, illustrated in Figure 18, is comparable with that of all artifacts; e.g., with peak frequencies located in the northwest corner and north-central portion of the former New Office location.

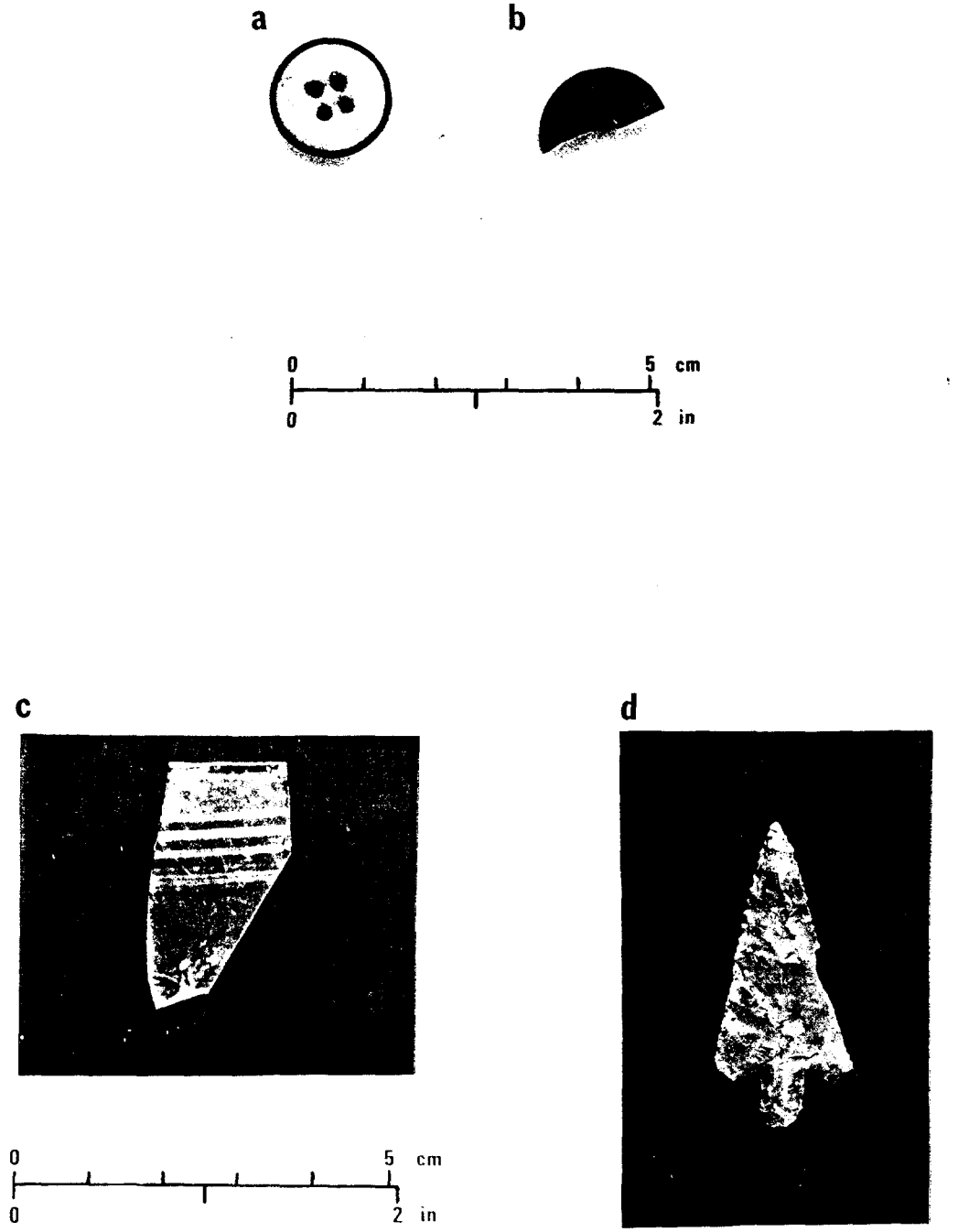


Figure 17 - Miscellaneous artifacts recovered from the New Office: (a) pewter-rimmed porcelain "Prosser" button; (b) amber cut glass sew-through button; (c) linear-etched window glass fragment; (d) corner-notched CCS projectile point.

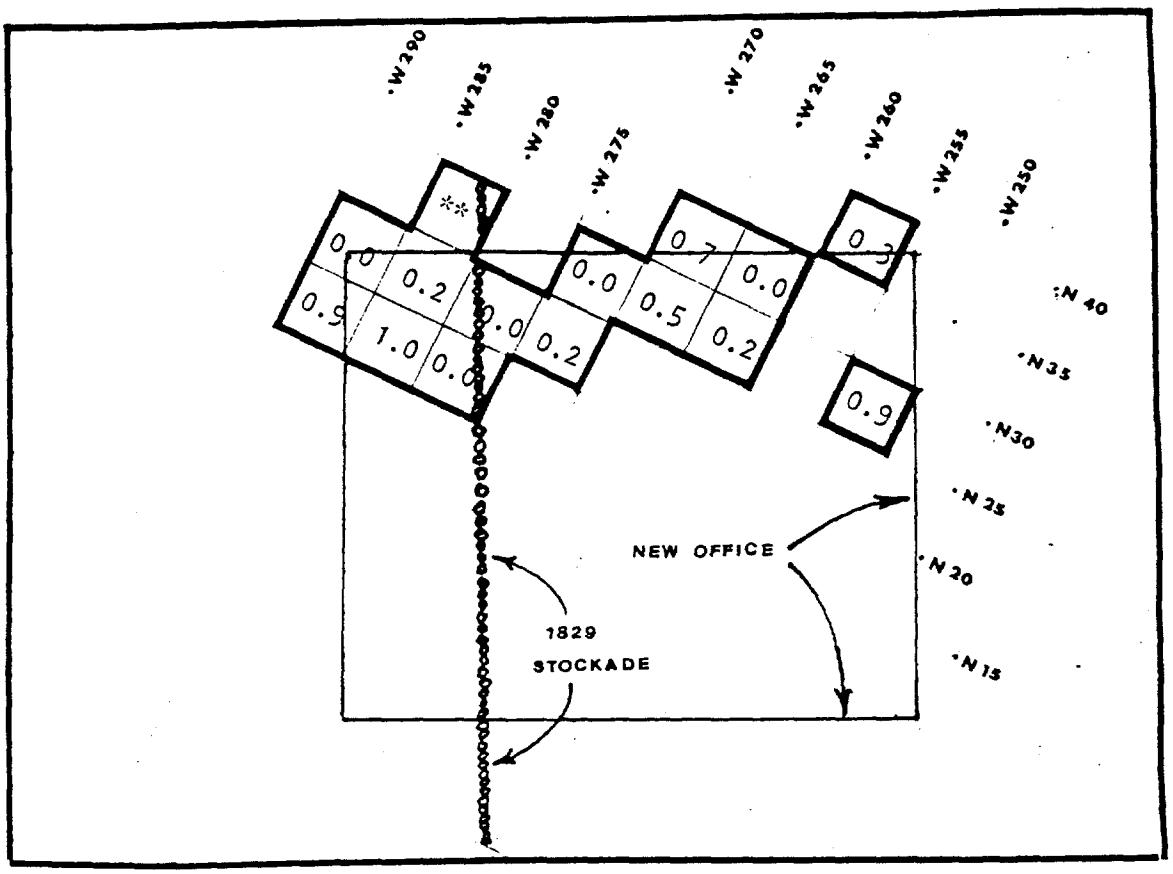


Figure 18 - Distribution of all bone fragments, expressed by relative frequency per ft^2, recovered from undisturbed HBC strata.

Building Construction Items

The principal construction items found in 1986 were nails, brick, ceramic roofing tile, and window glass. While most items may have been used in the construction of the New Office, the ceramic roofing tile appears to have been exclusively associated with construction, or uses, in the northeast corner of the original stockade, prior to 1836/37.

Nails:

Nails from the New Office site included wrought, machine-cut, cast, and wire nail types. Altogether, 1,125 fragmented and complete specimens were recovered. Of these, 656 specimens were recovered from the undisturbed 19th century cultural deposits (Strata 3 and 4).

Wrought nails, also called "hand-wrought", "hand-forged", and "wrought rod" nails, are the earliest type of manufactured nail used at the fort.

Virtually all wrought nails at Fort Vancouver were imported from the integrated cottage nail industries in England, notably the Birmingham District. Typically, nails of various standardized types were manufactured on a piece-basis in small family shops clustered around the principal iron-making districts. This centuries old industrial organization was maintained until at least 1860, long after the United States initiated the development of machines for the mass manufacturing of machine-cut nails, ca. 1790-1810 (Nelson 1968). Hence, because of the unique British supplied monopoly at Fort Vancouver, wrought nails were still used in quantity two decades after transition to machine-cut nails at contemporary eastern U.S. sites. For instance, in 1844, a phenominal 1,132,200 wrought nails were accounted in the Fort Vancouver Depot Inventory, up 265% from the 427,450 wrought nails inventoried in 1838 (H.B.C.A.B.223/d/155, M.S., 93-142 published in Hussey 1972: 270-271; H.B.C.A. Microfilm Roll 1M620).

The relationship of the various types of wrought nails and size ranges to nail function(s) at the fort, have been previously discussed at length (c.f. Steele et. al. 1975; Ross 1976). A total of 262 wrought nail fragments were recovered in 1986, 126 were recovered from undisturbed 19th century deposits and all were used during the H.B.C. occupation at the fort. Five major varieties were identified and are illustrated in Figure 19.

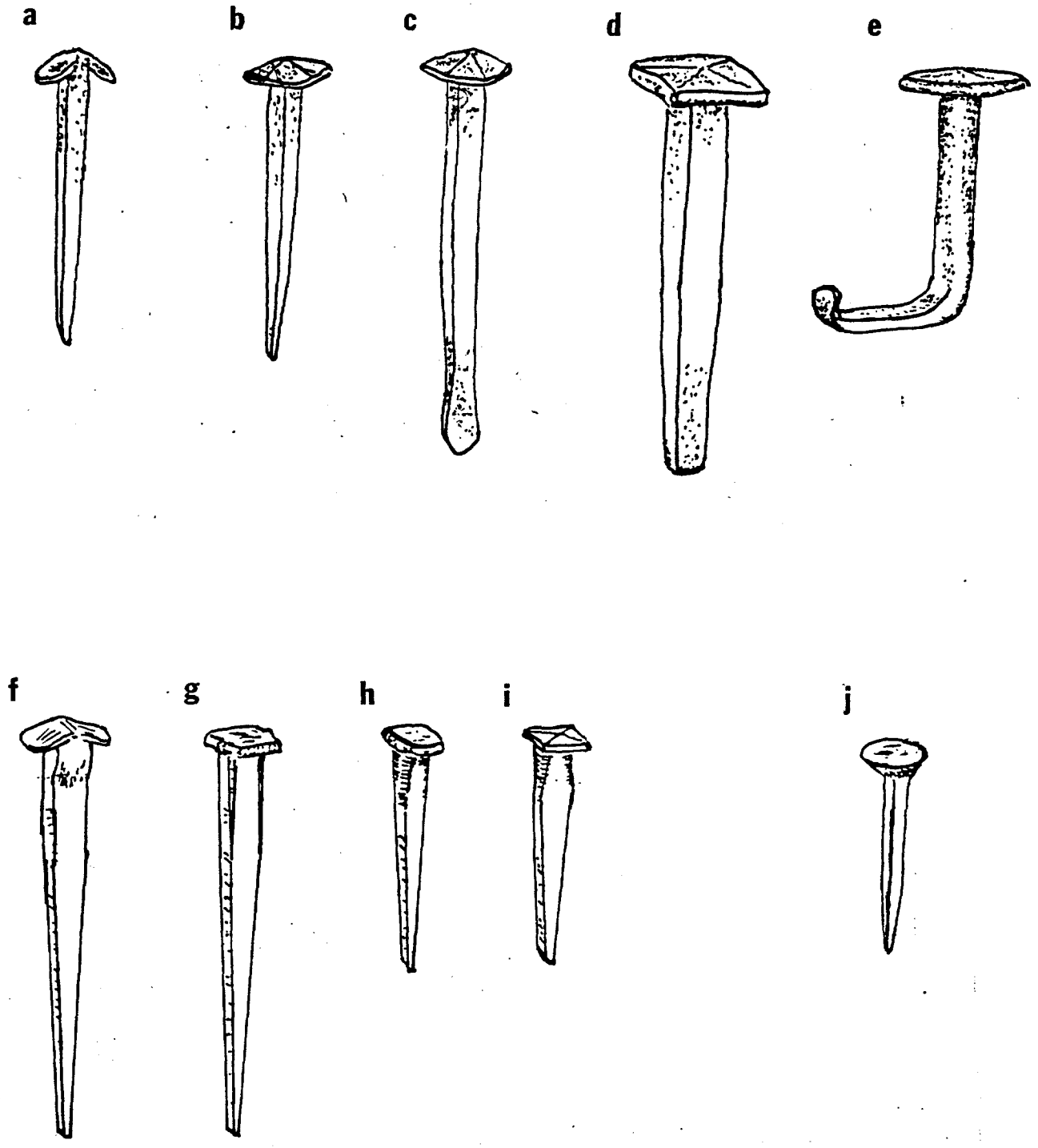


Figure 19 - Nail varieties recovered from the New Office:
Wrought nails - (a) Variety 1001; (b) Variety 1002;
(c) Variety 1009; (d) Variety 1010; (e) Variety 1022.
Cut nails - (f) Variety 2001; (g) Variety 2002;
(h) Variety 2004; (i) Variety 2005; Cast nail -
(j) Variety 4002.

Variety 1001 (Fig. 19a) - This variety is characterized by a rectangular bonnet-shaped head that principally overhangs only two sides of the shank, a square shank and a convergent tip. In British nomenclature and in the H.B.C. inventories, this variety was called a "clasp" nail. Between 1838 and 1844, Depot inventories indicate that six different sizes were in use, ranging from 6d size (approximately 2 inches in length) to 28d size (approximately 4-1/4 inches in length). Clasp nails were intended as finishing nails, such that the head could be "driven below the surface (to) allow a plane to pass over them" (Tomlinson 1854: 308). This variety was probably replaced by British machine-cut clasp nails in about 1844-45 (Steele et. al. 1975: 98).

Variety 1002 (Fig. 19b) - This is the most frequent wrought nail variety at the fort, and is commonly called a "Rosette-head nail". Typically, the nail had a circular faceted head that overhangs four shank sides, a square shank, and a convergent tip. This variety probably has several counterparts in British nomenclature and in the Depot Inventories, depending on the characteristics of the shank and nail length. Most probably, they were called "Sharp" nails in 1838 and 1844, with six sizes available ranging from 4d (approximately 1-1/2 inches) to 28d (4-1/4 inches), but may have been included in other categories: "clench", "fine-drawn rose", and "shingling" nails used at the Sales Shop in 1845 (Hoffman and Ross 1974: 37, Steele et. al. 1975: 103).

Variety 1009 (Fig. 19c) - Another "Rosette-head" variety but having a spatulate or "flat" tip rather than convergent tip. Typically nail lengths are longer than in variety 1002. On the fort inventories, the variety was probably termed "Fine-Drawn Rose Nails". They were not inventoried in 1838, but in 1844 were available in six sizes ranging from 8d (approximately 2-1/2 inches) to 30d (approximately 4-1/2 inches). Elsewhere, the variety has been found in lengths up to 8 inches, hence may be included in the "spike nail" category in the 1844 inventory (Hoffman and Ross 1973: Table 18; Hussey 1972: 271).

Variety 1010 (Fig. 19d) - This variety is found only in large "spike" sizes and probably was inventoried as "spike nails" in the 1844 inventory available in 4, 5, 6 and 7 inch lengths (Ibid). The variety is characterized by a four-faceted square rose head, a square shank, and a spade-shaped flat tip. The head has been shaped by side-striking the head to form a (relatively) uniform square shape.

Variety 1022 (Fig. 19e) - At the New Office, this nail variety was only found in "crimped" condition; i.e., the tip was bent at a right angle at the mid-shank. Unlike the previous varieties, these nails were manufactured from round iron stock, flattened near the end to form a spade-shaped flat tip. The head is circular, relatively flat, multiply struck "Rosette" and typically is offset from the center of the shank. This nail variety has been hypothesized as a variety of "clench" nail with round shank.

Historically, round shanked wrought nails were used to anchor metal to wood, and in the New Office were probably used to anchor hinges and hasps to doors and shutters. The length of crimp of specimens observed at the New Office suggest an overall thickness of wood plus metal hardware of 1-1/4 - 1-1/2 inches in thickness. Although shutters are not shown on the New Office in the 1860 British Boundary Commission Photograph (Hussey 1976: Plate LXIII), the building may have originally been constructed with shutters. More probably, they were derived from the doors of the office.

Machine-Cut Nails were innovated in the United States between 1790 and 1810 (Nelson 1968). Despite regular attempts to introduce mechanization in the British industry, there is no evidence that machine-cutting replaced hand wrought techniques until ca. 1860-70 (c.f. Aitken 1878). At Fort Vancouver, machine cut nails have been hypothesized to have been introduced ca. 1840-45. Comparison of fort inventories for the years 1838 and 1844 confirm this date, for machine cut nails are not listed on the 1838 inventory but are shown "in various sizes" on the 1844 inventory. However, as indicated in the Depot Inventory of that year, the proportion of cut nails to wrought nails was very small. Compared to the 1,132,200 wrought nails previously cited, there were but 1,000 "cut nails of (various) sizes" (Hussey 1972: 271). Clearly, nearly all machine-cut nails found archaeologically at the fort were used in new construction and repair or additions to existing buildings after 1844.

Previous reports have discussed the presence and attributes of both British and American machine-cut nails at the fort. All major varieties were recovered at the New Office and have been illustrated in Figure 19. Of the 601 machine-cut nails recovered in 1986, 331 fragmented and complete specimens were recovered from the undisturbed 19th century strata, and all were probably used during the H.B.C. and U.S. Army occupation of the fort, ca. pre-1865/66. Only one machine-cut nail variety, the British Machine Cut Clasp Nail, Variety 2001, was verified as having been used in the original construction of the New Office; one "spike"-sized specimen was found imbedded in the northeast medial footing (Feature 3). Other than the British machine-cut clasp nail, all other varieties were probably used in repair situations, after 1845.

Variety 2001 (Figure 19f) - As previously discussed, this variety has been identified as a British machine-cut "clasp" nail (Hoffman and Ross 1974: 137; Steele et. al. 1975: 105) and is described in British historical accounts of the period (c.f. Aitken 1878). The nail is characterized by a die-struck bonnet-shaped head, replicative of the design found in wrought clasp nails (Note: Machine die-struck replication of earlier wrought head styles appears to have been a distinctively British trait, versus transition to the generic multi-functional flat-headed "common" nail manufactured in the United States). At the New Office, this variety was recovered in size ranges from shingling size, 4d, to spike sizes, 3"-4" length and was probably used for a variety of construction situations. Presumably, this variety is included in the 1844 accounting of machine-cut nails at the fort.

Variety 2002 (Figure 19g) - This variety was historically called a "common" nail, and is still retailed in form unchanged from that of the mid-19th century. Specimens recovered from the fort were probably made exclusively in the United States, where the design was well-established from the 1830's onward (Nelson 1968). Locally, machine-cut common nails are found as the principal type of fastener used in U.S. Army construction post-dating 1849 (c.f. Thomas and Hibbs 1984: 471-525). At the New Office, the variety was probably only used in repair of the building during the 1850's and possibly the 1860's period.

Variety 2004 (Figure 19h) - The variety has been termed a "shingling" nail and was manufactured in both the United States and England. The nail is characterized by a flat, oval to rectangular-shaped head, with a distinctive constriction of the shank neck during head manufacture that resulted in an oval cross-section of the shank neck. The nail was found in shingling size at the New Office, and may have been the type of nail used in the shingling of the building. Elsewhere in the fort, this variety was found in quantity at the Chief Factor's Residence and the Fur Store and hypothesized to have been the nail variety used in the shingling (or re-shingling) of those structures, conducted in 1845.

Variety 2005 (Figure 19i) - This is a British die-struck "rose" head variety, only found in small nail sizes at the fort, e.g., under 12d size. As in Variety 2004, the shank neck was constricted to an oval cross-section during the heading operation. Although the variety has been recovered from all sites within the fort, frequencies have been sparse and no functional associations have been hypothesized. Like the British machine-cut clasp nails, these may have been part of the cut nails inventoried in 1844.

Cast Nails have been recovered from most areas of the fort, and 12 specimens were excavated in 1986. Of these, 11 were recovered from undisturbed 19th century strata and all were probably deposited during the H.B.C. occupation. All cast nails found at the fort are cuprous metal, either copper or brass. Historically, they were used in a variety of specialized situations from construction of garden lattice-work to the attachment of sheathing on boats. One variety was identified from the New Office, Variety 4002, a flat countersunk head nail with square shank (Figure 19j). These nails may have been used in the anchoring of fancy butt hinges, in the same way as modern-day countersunk screws are employed.

The distribution of wrought and machine-cut nails is illustrated in Figure 20. Peak frequencies were found in both the northwest corner and the north central portion of the former New Office location, comparable to the distribution of "All Artifacts". Because of the limited sample area, no interpretation of either the gross nail distribution nor that of specific nail varieties is possible at this time.

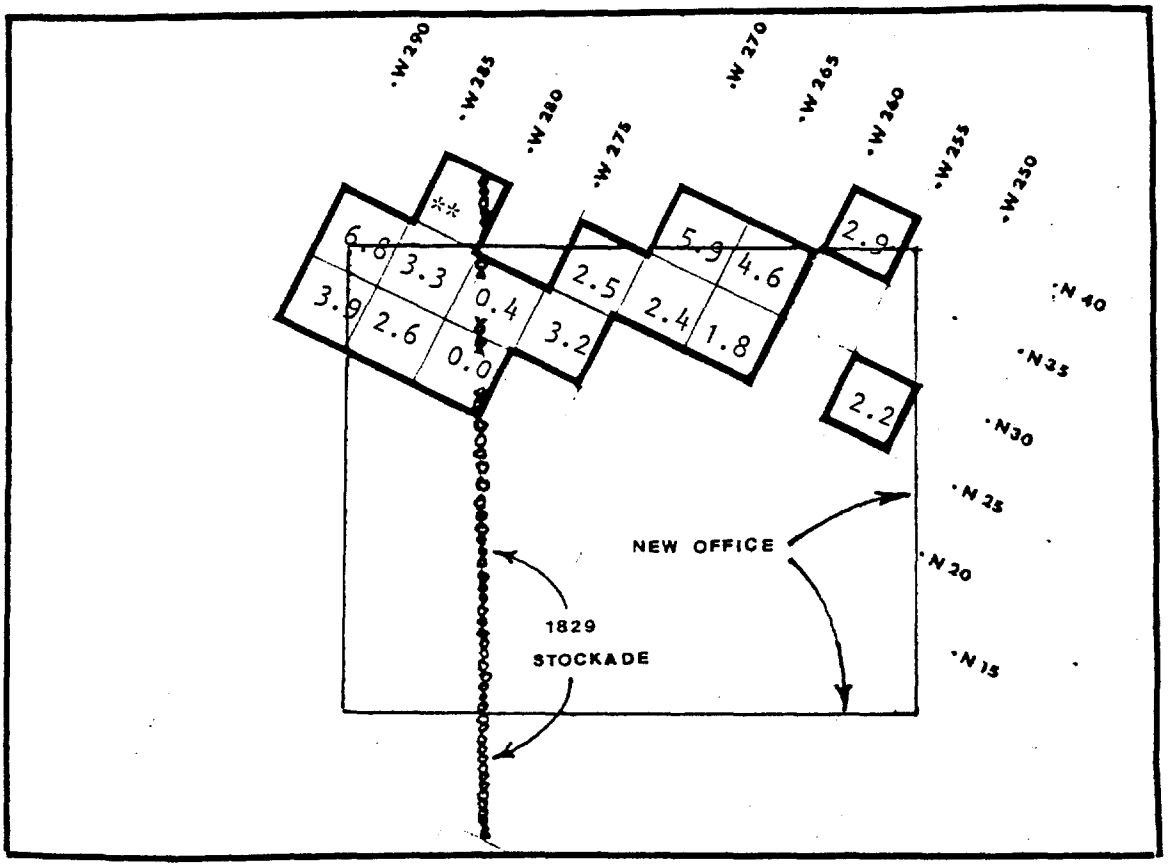


Figure 20 - Distribution of all wrought and machine-cut nail fragments, expressed by relative frequency per ft^2, recovered from undisturbed HBC strata.

Brick:

Brick recovered in 1986 principally comprised small fragments. Neither complete specimens nor evidence of brick masonry employed in the North Office were found. Two types of brick have been found in high frequency at the fort, British Stock Brick, a yellowish semi-vitrified brick imported from England, and "Local" brick, a soft salmon-colored brick thought to have been made in the vicinity of French Prairie, south of Oregon City, and used in the construction of the ca. 1844 Bakery (Hoffman and Ross 1972: 58-65; Steele et. al. 1975: 129; Thomas and Hibbs 1984: 637). Alternatively, stock brick appears to have been used throughout the 1830's and probably was re-used (recycled in 1840's and 1850's construction) (Hoffman and Ross 1972: 58-65).

In 1986, all fragments retained in the screens were saved and classified according to brick type. Of 879 fragments recovered, 543 were from undisturbed strata.

British Stock Brick fragments were recovered from all areas of the site, but larger brick "bats" (intentionally struck partial bricks) were recovered only from the probable H.B.C. refuse area underlying Feature 10. A total of 151 fragments were recovered overall from undisturbed strata, and with the exception of the refuse area, appear to be associated with generalized construction (or demolition) refuse distributed throughout the fort.

Local Brick was recovered only in highly fragmented form. Although more frequent than the British stock brick, with 543 fragments recovered, no specific use or significant deposition areas were identified. As previously suggested, this brick probably was only used at the fort during the 1840's and probably 1850's, and may have been deposited at any time during the period ca. 1844 - ca. 1865/66.

The distribution of brick fragments, illustrated in Figure 21, is principally confined to the north central portion of the former location of the New Office. This centrum coincides with brick distribution trends identified in the southwest portion of the jail (Steele and Hibbs 1986: 92). As this distribution correlates with the location of the compressed "Road" (Feature 15) located between the Jail and New Office, the higher frequency is probably due to post-deposition fragmentation rather than the relationship to the location of a masonry feature. As previously indicated, no evidence of in-situ masonry, or mortar residuals were found that might suggest the location of a chimney or fireplace foundation.

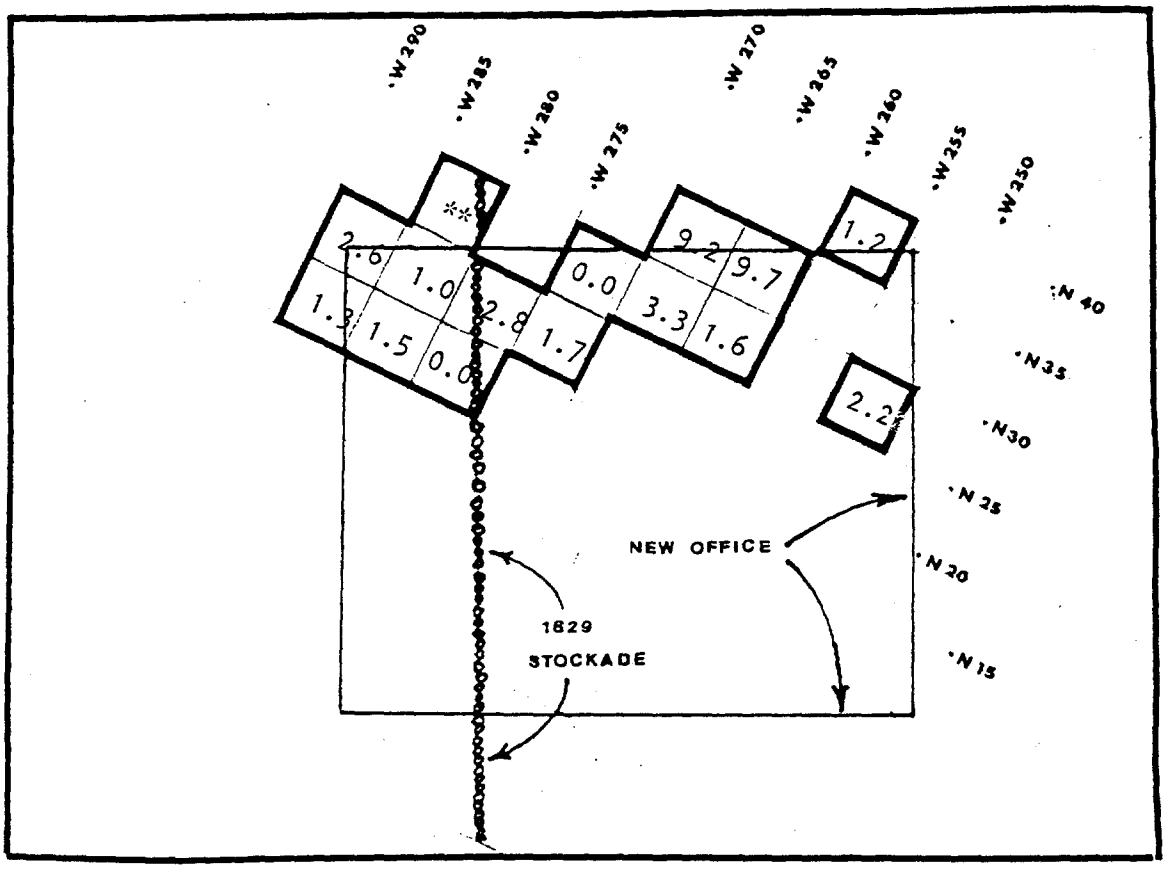


Figure 21 - Distribution of all brick fragments, expressed by relative frequency per ft^2, recovered from undisturbed HBC strata.

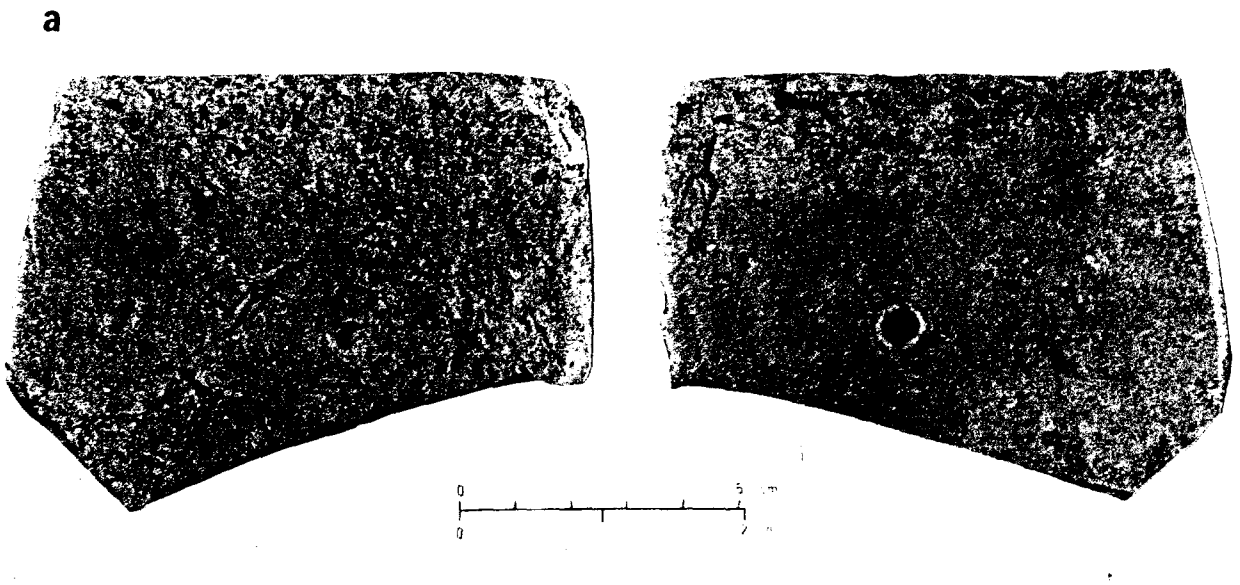
Ceramic Roofing Tile:

Ceramic roofing tile is not often recovered at Fort Vancouver although it was a common roofing material in the United States and England throughout the first quarter of the 19th century. Tiles were principally used for fire-proof buildings, or in dense urban areas where fire was of concern. By necessity, roofs were steep, to accomodate the shingle weight. In New England, innovations in new fireproof roofing materials, including slate and sheet metal shingles, led to a rapid decline in the use of ceramic tiles after 1830 (Waite 1976: 136).

Of 286 fragments recovered in 1986, 74 were from undisturbed 19th century strata. All fragments (286) are from a single type of soft orange unglazed tile, approximately 1/2 inch in thickness. Composition is uniform, relatively compact, platy clay without sand or inclusions. The tiles appear to have been hand molded in shallow forms, and hand trimmed on upper surface. Preformed nail or fastener holes were pressed into the clay while moist, during the molding process (Figure 22). Thickness varies from 0.47 - 0.60 inch (approximately 1/2 to 9/16 inch) and undoubtedly were manufactured to conform to a minimum thickness of 1/2 inch (Figure 23a).

The spatial distribution of in-situ roofing tile trends from west of the 1829 East Stockade; notably absent is a peak centrum of deposition in the north-central area mirrored by all other artifact types (Figure 23b). This westerly trend suggests association with structures in existence from 1829 - ca. 1836, the pre stockade expansion period. In this regard, examination of the N.P.S. Fova Museum Collection Records indicated that Louis Caywood recovered a substantial deposit of brick tile from Trashpit (T.P.) 9, an 1829 - 1836/37 privy located next to the old East Stockade to the rear of the Old Office, south of the New Office site. The museum collection includes much larger fragments than those found in the New Office but are identical in type and thickness.

Elsewhere at the fort, Thomas (personal communication) recovered similar tile from the ca. pre-1841 residence at the southeast corner of the fort, although fragment frequency was insufficient to conclusively suggest a functional association with the structure.



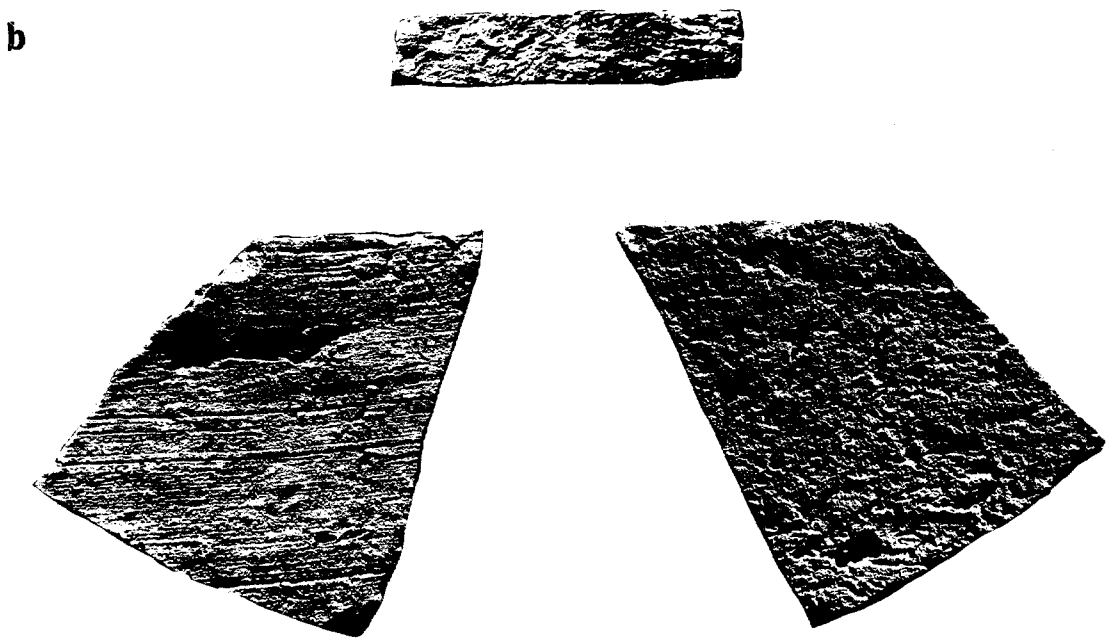


Figure 22 - Plan and crossection of ceramic roofing tile, showing molded nail hole and fabric texture.

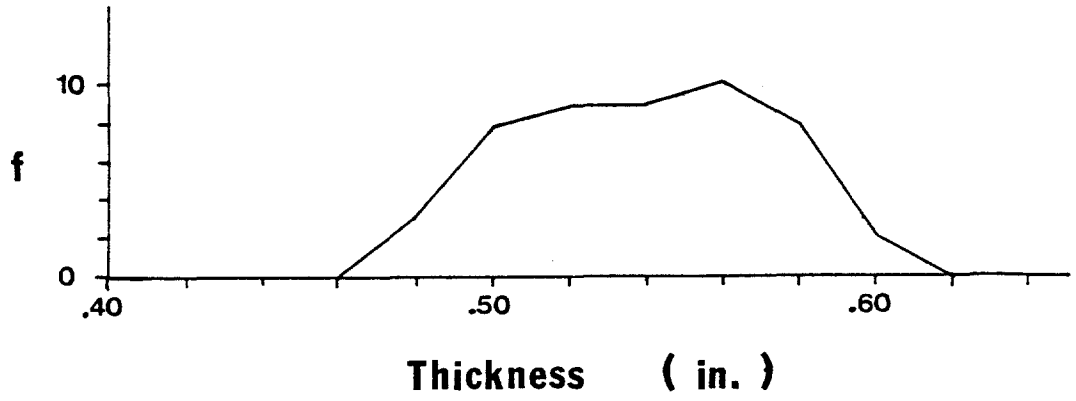


Figure 23a - Metric distribution of ceramic roofing tile thickness (n=45).

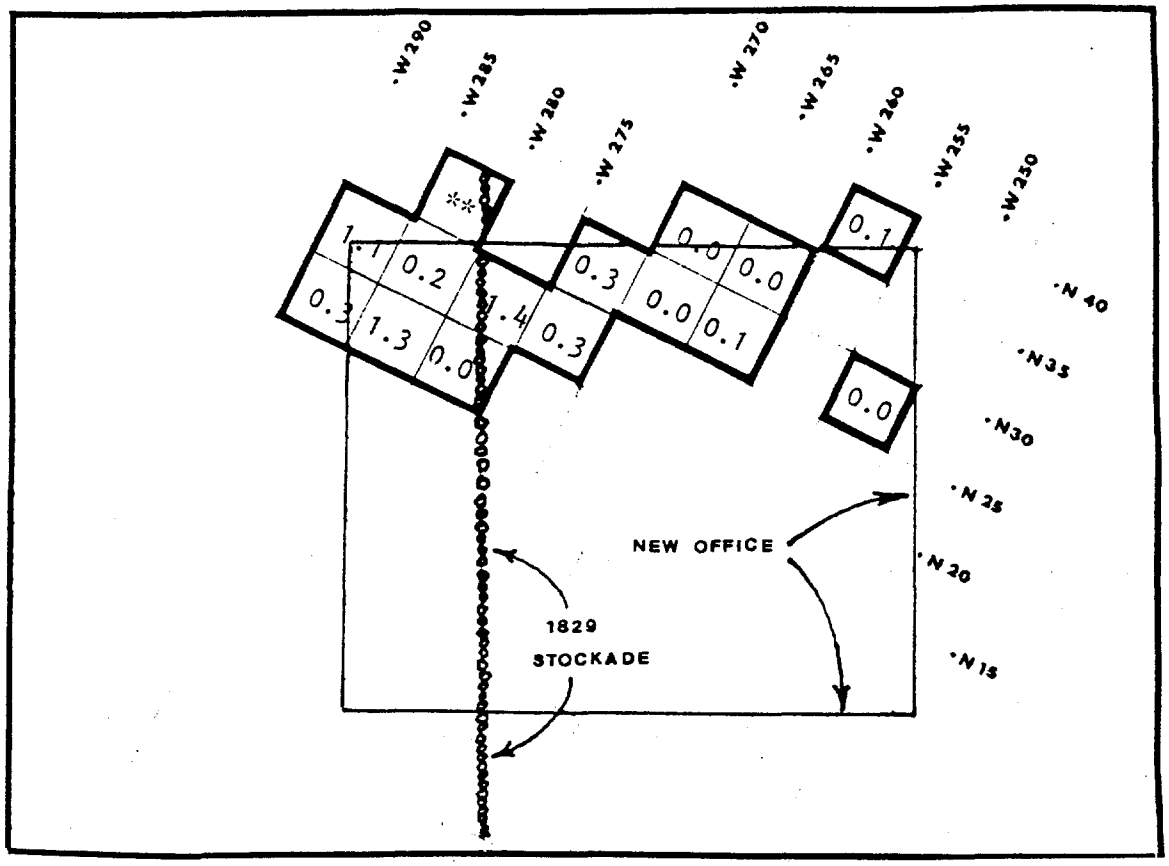


Figure 23b - Distribution of all ceramic roofing tile fragments, expressed by relative frequency per ft^2, recovered from undisturbed HBC strata.

Window Glass:

Window glass recovered from the fort has been shown to be an important indicator of the locations of windows for the relevant associated structures, based on the spatial distribution of glass, and as an important chronological indicator for the time period(s) of building construction and repair, based on the frequency distribution of glass thickness (Hoffman and Ross 1971-75, all reports; Chance and Chance 1976: Roenke 1978; and others).

In 1986, 760 window glass fragments were recovered, and 414 were from undisturbed 19th century strata. All specimens from undisturbed context were associated with original construction and window replacement during the fort period, 1829 - ca. 1865/66. Measurement of the glass thickness was conducted on 389 in-situ specimens (94% sample). As illustrated in Figure 24, model frequency (most frequently occurring thickness) was .05 inch, correlating with glass manufactured from approximately 1830 to 1845, according to the Chance and Chance (1976) chronology. The frequency curve suggests a single construction event, probably that of the New Office in 1845, with subsequent minor replacement of windows. There is no indication, either from the gross distribution, or internal inspection of the spatial distribution of very thin glass, characteristic for the 1830-40 era, that an earlier structure was located at or near the New Office.

One fragment of an etched-decorated window glass was recovered (Figure 17c). The etching is suggestive of a linear row border around the edge of the pane. This fragment may represent glass that was used in the transom over the front door (possibly back door as well) of the New Office, as illustrated in the 1860 British Boundary Commission Photograph (Figure 4b, this report; Hussey 1976: Figure LVIII).

The spatial distribution of window glass, illustrated in Figure 25, approximates that of "All Artifacts", but significantly higher frequencies were found in the north-central area of the New Office. While this location coincides with peak frequencies of other artifact types studied, the disproportionate peak (12.6 fragments per square foot) may indicate the presence of a window, or windows, at that location of the New Office.

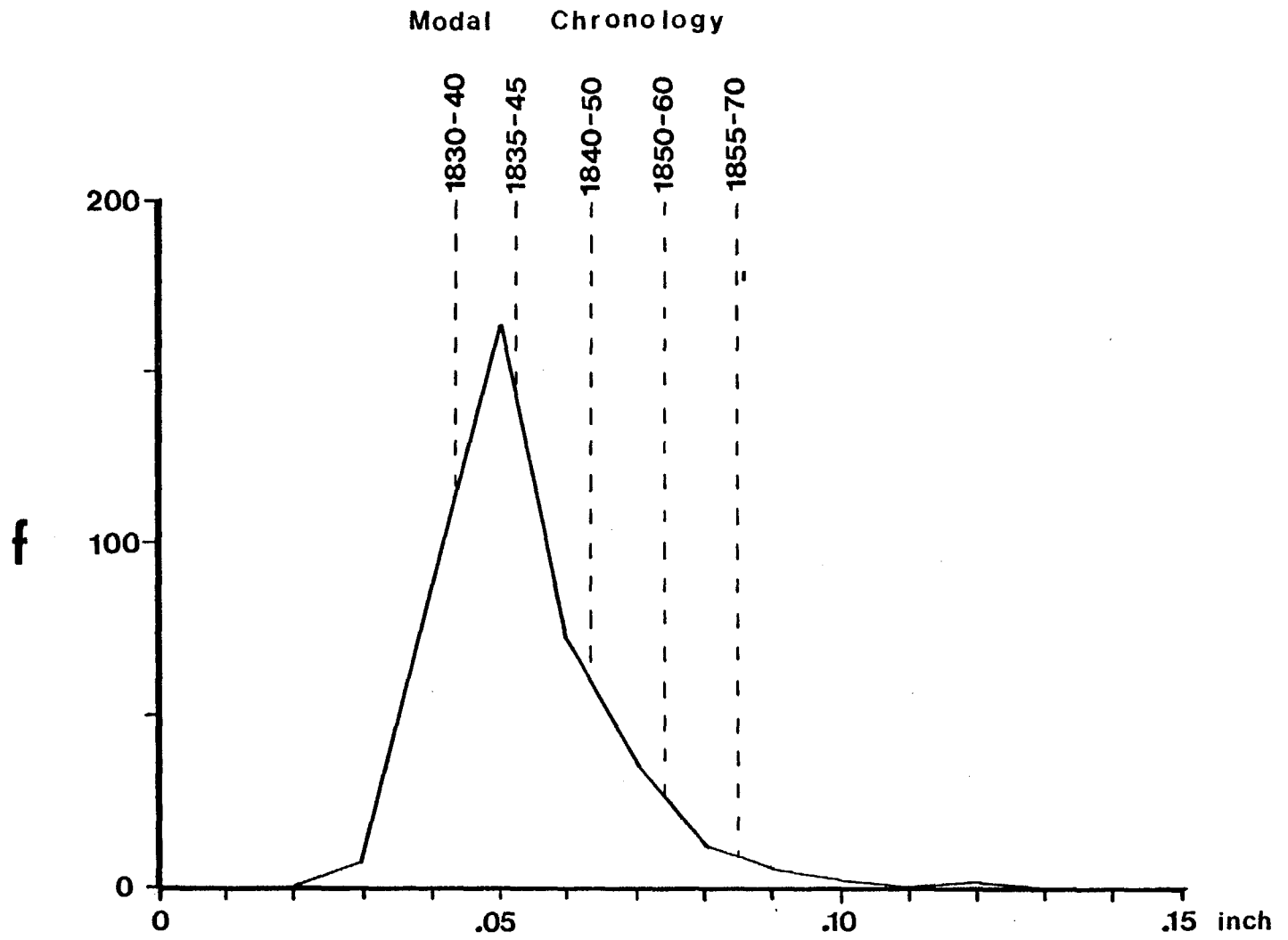


Figure 24 - Metric distribution of window glass thickness compared to the Chance & Chance (1976) modal chronology (n=389).

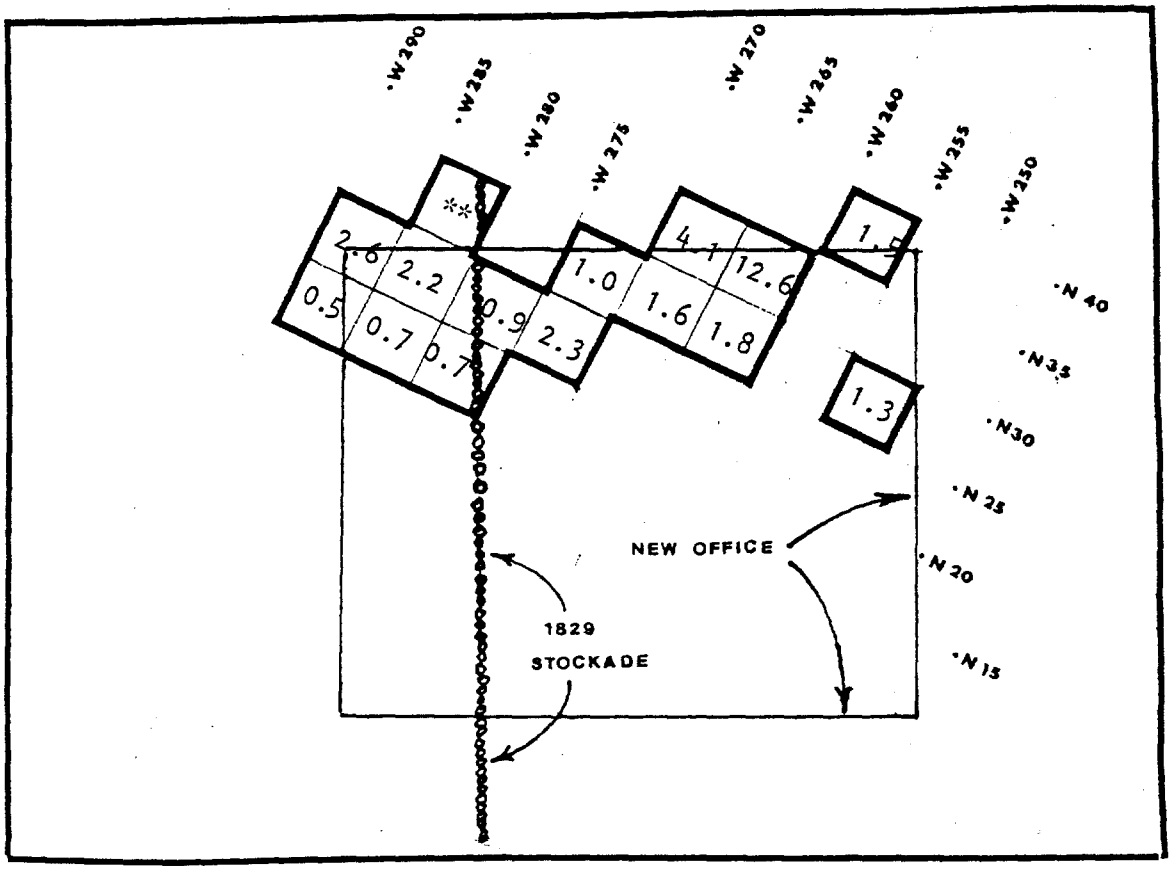


Figure 25 - Distribution of all window glass fragments, expressed by relative frequency per ft^2, recovered from undisturbed HBC strata.

Other Artifacts

One native American projectile point (Figure 17d) manufactured from crypto-crystaline silica was recovered from undisturbed strata near the northeast corner of the New Office. The specimen is corner-notched with narrow stem comparable to Pettigrew's Type 7 Lower Columbia River projectile points (Pettigrew 1981: 16, Figure 4). This type is considered associated with the Sauvie Island Horizon (and subsequent horizons) of the Multnomah Phase, ca. post-A.D. 200 (Ibid: 137). The specimen was the only evidence of aboriginal technology recovered and is considered an isolated find that may have deposited prior to the construction of the fort.

SUMMARY AND CONCLUSIONS

During 1986, volunteers from the Oregon Archaeological Society successfully excavated and documented archaeological remains from the north 1/3 of the New Office site, including structural remains of the 1829 East Stockade and the 1845 New Office.

While the sample area was spatially confined, several key historical relationships were documented or suggested:

1. While a high proportion of the excavation area had been previously tested (and disturbed) by Caywood, approximately 49%, the remaining area was found to have high integrity, with minimal post-fort disturbance. Presence of the World War I gravel, Stratum 2, principally contributed to that integrity.

2. The 1829 East Stockade was probably of lighter construction than that interpreted for the late-fort (ca. post-1841/42) period. Pickets were only 6 - 8 inches in diameter and probably had visible spaces of 1 - 3 inches between pickets. Base of the stockade was originally set at 3 - 4 feet below the H.B.C. surface. Based on a reasonable ratio of above ground to below ground that would preclude collapse of the structure, the overall stockade height was probably between 12 - 16 feet.

3. The location of the New Office and distance between footings, approximately 10 feet center-to-center was confirmed. Overall east-west dimensions could not be confirmed due to Caywood having completely removed the northwest corner. There was no evidence of significant repair events, such as addition to shims, to the north wall.

4. All New Office footings were found to have been burned, as observed by Caywood. However, other evidence of an intensive fire that may have demolished the office, such as ash lenses, melted glass, and annealed iron artifacts was sparse. Another explanation may be that a fire may have swept the fort plain shortly after the office was physically demolished.

5. Artifacts that were identified to have been prevalent in the pre-1836/37 period at the fort but not after, are limited to ceramic roofing tile, and possibly the Chinese blue-and-white and polychrome export ware. The blown-in-mold flask fragment is suggestive of early use, but only one fragment was recovered and is obviously inconclusive.

6. Significant artifacts in use at the New Office appear to include "Lily" pattern Copeland-Spode earthenware, stoneware ink bottles, specialized pressed table glass (in addition to blown glass), British machine-cut clasp nails, and possibly etched window glass (in the transom). There was no evidence of a chimney or hearth in this portion of the building.

7. There is no physical evidence that the New Office was used as a residence by the officers of the Modeste. In fact, evidence of domestic activity of any kind, such as clerks' quarters in the office, was scant.

Subsequent excavations planned for 1987 and 1988 should add considerably to our knowledge of the archaeological assemblage and historical relationships at the New Office. The area proposed for study in 1987 will be the west 1/2 of the site and will include the remainder of the 1829 stockade, the west wall and portions of the south wall of the New Office (Figure 26).

One important step in streamlining the excavations should be taken: the post-1892 strata, Stratums 1 and 2, comprising the World War I army gravel and N.P.S. topsoil (including Caywood's backfilled trenches) should be removed with a backhoe. No significant artifacts were found associated with the World War I gravel, and all artifacts in the N.P.S. stratum have already been redeposited through one agency or another. It will do little harm to redeposit them once more. The backhoe operation should be carefully monitored by the professional archaeologist and volunteer staff to insure that the 1894 flood silt (Stratum 3) is not punctured by backhoe. Machine removal of these overlying strata will effectively double the recovery effort in undisturbed 19th century strata and insure completion of the project in a timely manner.

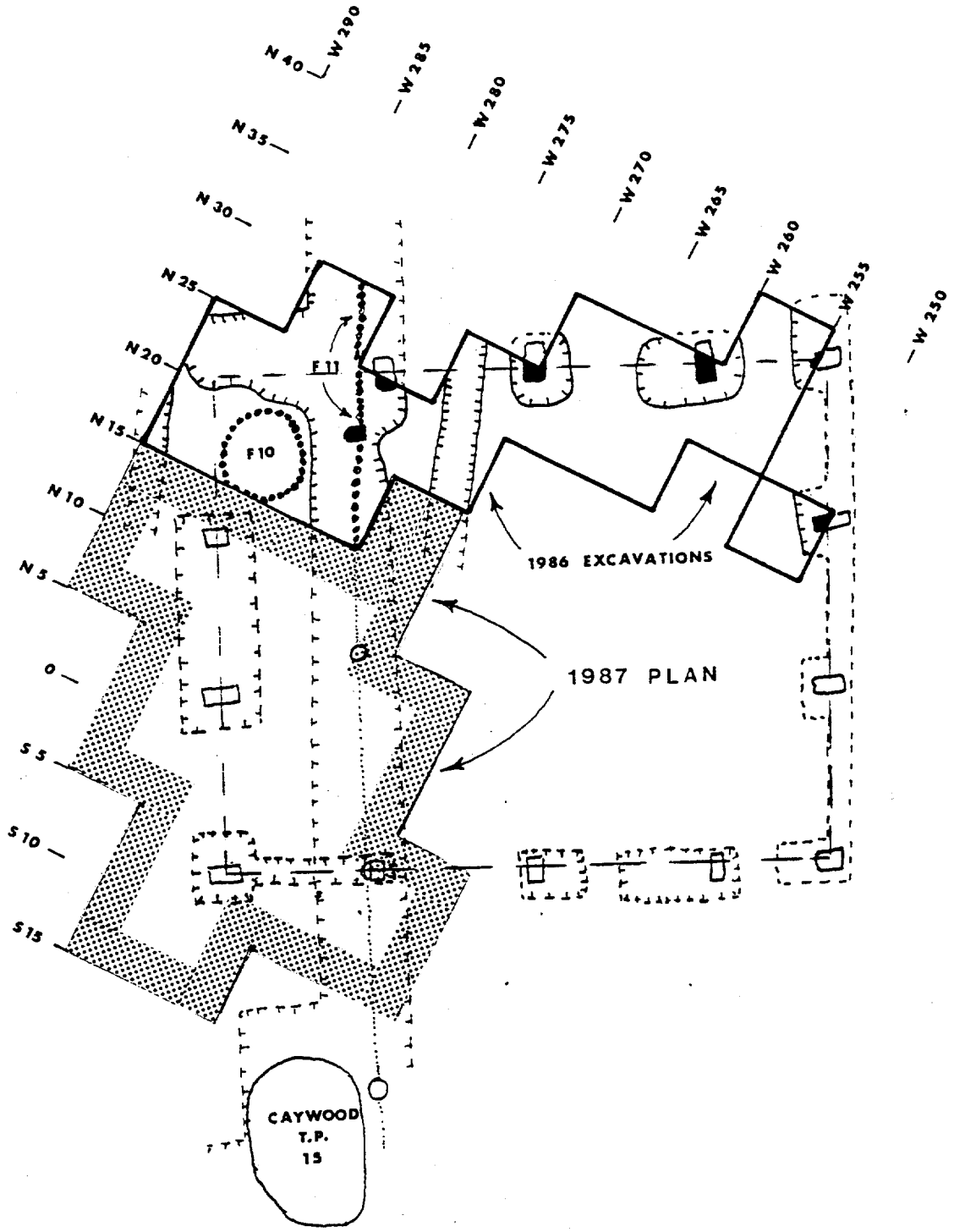


Figure 26 - Proposed area of 1987 volunteer excavations of the New Office.

POSTSCRIPT

As with most projects of this sort, the excavations, analysis and reporting could not have been accomplished without the substantial efforts donated by a few key individuals. My special thanks to Harvey Steele, Ray Frone, Alison Stenger, Frank Fassold, Bonnie Mills, and Phylis Wische, who persevered above and beyond the call of duty, and to Joy Mancinelli, who travelled back and forth from Vancouver, British Columbia, with fellow U.B.C. Field School students in hand, to participate in the Fort Vancouver excavations.

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